VOL. VI.] JANUARY, 1899. [No. 73.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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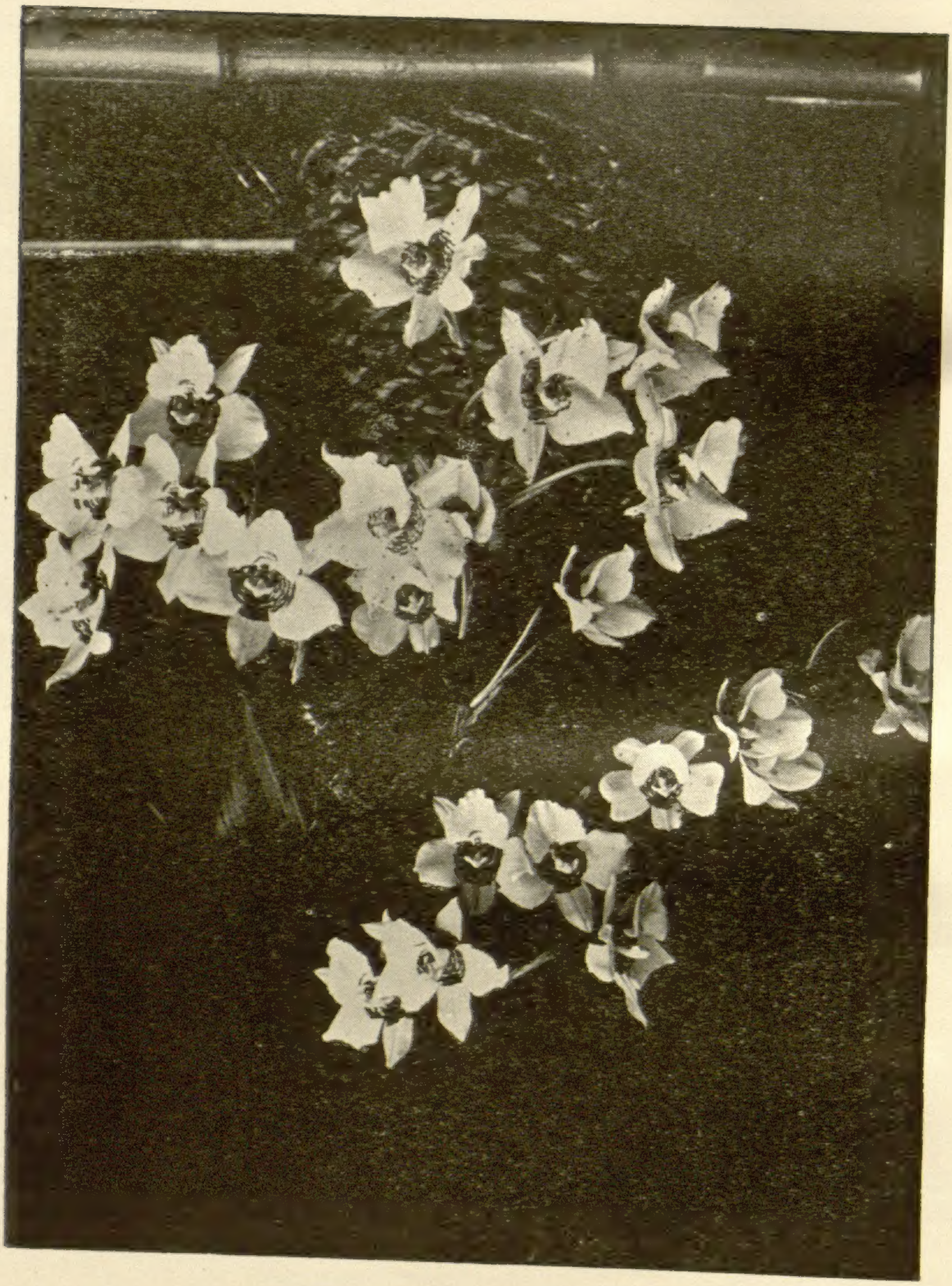

ODONTOGLOSSUM CERVANTESII

(*See page 357.*)

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THE ORCHID REVIEW

An Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY

VOLUME VII

1899

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Mo.Bot.Garden

"Who can paint
Like Nature? Can imagination boast,
Amid his gay creation, hues like these,
And lay them on so delicately fine,
And lose them in each other?"

THE ORCHID REVIEW.

VOL. VII.] *JANUARY*, 1899. [No. 73.

NOTES.

THE first meeting of the year of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on January 10th, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon. There is also to be held a second meeting, on January 31st.

In an official programme just issued is an announcement that an International Conference on Hybrids, with Exhibition, will be held at Chiswick on July 11th. The Conference will be continued on July 12th at 117 Victoria Street, S.W. Further particulars may be anticipated at an early date.

A meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on January 12th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 o'clock until 4.

An additional part of the Orchidaceæ of the *Flora Brasiliensis*, by Prof. A. Cogniaux, has appeared, containing part of the tribe Læliinæ, as arranged by Pfitzer, which is divided into two subtribes—Ponereæ and Cattleyeæ. Of the genera more or less familiar in gardens may be mentioned, Isochilus, Scaphyglottis, Hexisea, Amblostoma, Lanium, and Epidendrum, the latter, of which 141 species are indicated in the key, being not quite finished in the present part. The plates number 49, some of them containing more than one species.

We have received together the May, June, and July numbers of Messrs. Cogniaux and Goossens' interesting little *Dictionnaire Iconographique*

des Orchidées, containing life-like portraits of thirty beautiful Orchids. On looking them through we find that the plant figured and described as Phalænopsis Esmeralda, Rchb. f., is P. rosea, Lindl., a very different species, while that figured at Lycaste candida, Lindl., is L. leucantha, Klotzsch. In the accompanying *Chronique Orchidéenne* for June, we find a brief note about the Hartwegia Kienastii, described in these pages apparently three months later, which we think M. Cogniaux should have kept for his October number. It is rather instructive in connection with the priority question. We also observe the record of a hybrid between Brassavola Perrinii and Cattleya guttata, exhibited at Paris on July 28th last by M. Mantin, under the name of Correvonia × bellaerensis, a name which might very well have been suppressed, for at the end of the description it is very properly pointed out that it should be Brasso-cattleya × bellaerensis. It is important that the multiplication of useless synonyms should be checked as far as possible.

A very fine flower of Paphiopedium × Murillo var. Cyris is sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne. It was raised from P. Boxallii atratum ♀ and P. Argus ♂, and received a First-class Certificate from the R.H.S., in November, 1894. The flower is very large, and both the dorsal sepal and petals are handsomely spotted with deep purple brown.

Lælia albida sulphurea, is a very pretty light yellow variety which was described by Reichenbach some years ago. A plant of it has now appeared in the collection of R. Brooman White, Esq., of Arddarroch. Though so different from the type in colour it is quite identical in other respects.

The Mexican Lælias are now blooming very effectively in various collections, and among them are a few forms of rather doubtful origin. Some time ago Mr. H. Arthur, of Blackburn, purchased a few plants as Lælia Marriottiana (which is a synonym of L. Eyermaniana, Rchb. f.), but on flowering they prove to contain typical L. albida and autumnalis, and a third form very similar to L. Gouldiana, and, like it, probably of natural hybrid origin. It would be interesting if our hybridists would cross some of the recognised species together, so that the hybrids might be compared with those which occur wild.

Hybrid Paphiopediums now form a great feature among winter-blooming Orchids, and among them P. × Leeanum probably stands first for beauty and utility. A highly curious flower of this comes from the collection of G. O. Sloper, Esq., Westrop House, Highworth, in which the lip and one of the petals are missing, and the three remaining parts stand in a triangle. The staminode is normal, but the anther on the side of the missing petal has grown out into an oblong staminode $\frac{1}{4}$ inch long.

P. × Niobe is an exquisite little hybrid, in which the combination of the rare P. Fairrieanum with P. Spicerianum results in a large white dorsal sepal, green at the base, and reticulated all over with light purple veins. A beautiful flower is sent from the collection of R. Brooman White, Esq., of Arddarroch.

Four other showy hybrids are sent from the collection of E. F. Clark, Esq., of Teignmouth. First may be mentioned P. × politum, in which the combined characters of P. barbatum and P. venustum give a rich and very pleasing effect. P. × regale unites the characters of P. purpuratum and P. insigne, but is very distinct from both. P. × Calypso is a fine bold hybrid, derived from P. Spicerianum and P. Boxallii, and recalls P. × Lathamianum, though with more colour in the dorsal sepal.

The remaining one is a seedling from the Selly Hill collection, now flowering for the first time. The record on the label is "Harrisianum nigrum × Io maxima," though we fail to trace any character derived from the latter, or from its parents P. Argus and P. Lawrenceanum. Mr. Clark very well remarks that it is not unlike a small P. × Creon, and indeed so close is the resemblance that we think the second parent must have been P. × œnanthum. It is very richly coloured, especially the dorsal sepal, and will improve in size as the plant gains strength.

Photographs of the pretty little Lælio-cattleya × intermedio-flava, from a plant which flowered in the collection, are also sent.

We learn that two new Orchid houses have just been erected for W. M. Appleton, Esq., of Weston-super-Mare, by Messrs. James Crispin and Sons, of Bristol. They are each 45ft. long by 10ft. wide, and fixed side by side, an arrangement which has several advantages in its favour.

The twelfth volume of *Le Jardin* is dedicated to M. le Comte Oswald de Kerchove de Denterghem, President of the Société Royale d'Agriculture et de Botanique de Gand, and author of *Le Livre des Orchidées*. The dedication is accompanied by an excellent portrait.

A flower of Cattleya quadricolor alba is sent from the collection of Dr. A. W. Hoisholt, of Stockton, California, and arrives in partially fresh condition. The pedicil is inserted in a little ball of wet peat, tied up in oiled silk, and the flower is wrapped in tissue paper before being placed in the box, which seems an excellent method of packing, as the flower shows no trace of mould.

A flower of Odontoglossum × Andersonianum platychilum is sent from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, which is

remarkable for its short, broad lip, which is much nearer to O. crispum in shape than to O. gloriosum. The sepals and petals are coloured like the variety Ruckerianum.

It is interesting to note that two more of M. Ch. Vuylsteke's seedling Odontoglossums have reached the flowering stage, and a bloom of each has been sent. One belongs to O. × crispo-Harryanum, and has light yellow flowers, with the sepals aud petals and lower part of the lip much barred and spotted with purple brown. The other belongs to O. × Rolfeæ and has a whiter ground, with rather smaller and more regular spots, a more pandurate lip and more entire column wings, as would be expected from its O. Pescatorei parentage. Both are very beautiful.

An inflorescence of a very large and beautiful Lælio-cattleya, called Princess of Wales, is sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young. It was obtained from Messrs. F. Sander and Co., and is a seedling of continental origin and unrecorded parentage, though Mr. Young thinks there can be little doubt of its descent from C. Warscewiczii and a very light form of Lælia purpurata; which would make it a variety of L.-c. × callistoglossa. The sepals and petals are light blush-pink, while the expanded part of the lip is bright rose, paler along the centre and round the margin, and with slightly darker veins along the sides. One of the two flowers sent has the dorsal sepal adnate to the back of the column, and appears to be duplicated, for there are fonr broad petaloid wings united to the back of the column, and these are beautifully crisped in front, where they extend beyond the adnation, giving the flower a very striking appearance. It is a very charming form.

Flowers of the rare Oncidium Warscewiczii, the beautiful Trichopilia brevis, and a very large scarlet form of Sophronitis grandiflora are also enclosed.

PERISTYLIS GLABERRIMUS AND P. MADAGASCARIENSIS.

Two Madagascar Orchids were described some few years ago as Holothrix glaberrima, Ridley (*Journ. Linn. Soc.*, xxii., p. 125), and H. madagascariensis, Rolfe (*l. c.*, xxix, p. 55, t. 12), but re-examination shows them to belong to Peristylis. P. madagascariensis is allied to P. latifolia, S. Moore, and P. glaberrima much resembles P. spiralis, S. Moore, in general habit, but is readily distinguished by its long narrow spur. It is as well that they should be transferred to their proper position.

R. A. R.

DIES ORCHIDIANÆ.

My remarks at page 365 on the Cypripedium question have elicited several replies from interested correspondents, who, it is not surprising to find, take totally different views as to the expediency of adopting the new classification. Two or three suggest that the old names should be retained for garden purposes, whether right or wrong, while others advise that the new names should be uniformly adopted, and then they would soon become as familiar as the old ones. The recent remarks of Sir Joseph Hooker are interesting in this connectionn. In the December number of the *Botanical Magazine* is figured Paphiopedilum Mastersianum (t. 7629), where the author remarks:—"My reasons for adopting Pfitzer's generic name are given under t. 7573. I think they are botanically unassailable, nevertheless I do not object to the substitution of Cypripedium for it in common parlance." One communication, however, deserves more than a mere passing mention.

"Dear Argus," it runs, "I have read your remarks about Cypripedium with interest, and that quotation from Reichenbach is very funny, but it does not quite exhaust the question. In the recent discussion it seems to have been taken for granted that Linnæus intended to write 'Venus's-foot Orchids,' but in his *Philosophia Botanica* he explains that he intended 'Venus's-slipper Orchids,' as he distinctly uses the word '*pedion*' and '*calceus*,' and the meaning of the latter, at all events, admits of no doubt. 'Pedilon,' however, not 'pedion,' is the correct equivalent, and you yourself admit that 'the rule of keeping names as they were originally given is a good one for general purposes, if not carried too far, as it easily may be. For example, it should not prevent the correction of an obvious blunder.' Just so, and as Linnæus clearly intended to compare the lip of this plant with the slipper of Venus—a pretty fancy—no serious objection should be taken to the correction of the name into Cypripedilum, which has a definite and unmistakable meaning. Your further remark that 'it is repugnant to common sense to have two methods of spelling' I fully endorse, but the proper course seems to be to write Cypripedilum, Selenipedilum, Phragmipedilum and Paphiopedilum; not to contract the latter into Paphiopedium, in order to make it agree with the others, which are actually incorrect. The difference between the correct and incorrect word is very slight, especially if pronounced correctly. The popular pronunciation of 'pedium' with a long e (like peedium) is incorrect, because e in Greek is always short, and ped-i-lum (or ped-il-um) sounds better than ped-i-um (both e and i being sounded short). The other suggestion of writing Cypripodium, &c., was surely not made seriously, and is not correct. I think from your remarks at page 37 of the last volume,

that you took it for granted that the derivation 'Venus'-foot Orchids' was correct, which is not the case, so that the cause of your objection to the amended spelling disappears."

My correspondent makes out a very good case for the amended spelling of these names, and I find that his reference to Linnæus is correct, though that author, like several others, got a little mixed in writing "pedion" as equivalent to "calceus," meaning a shoe or slipper (unless, indeed, the "l" was dropped out by a printer's error). I did assume, in discussing the question (*O. R.*, vi., p. 37), that the derivation given in the *Botanical Magazine* as Venus'-foot Orchids was correct, and am not sorry to find the case for still further alteration, into Cypripodium, &c., has vanished. The exact meaning of my remarks is sufficiently clear, and one sentence it may be worth while to repeat:—"The case of 'Paphiopedilum' is a little different, but the advantage of uniformity in spelling is obvious, and considering the liberties taken with pre-existing names, I am not disposed to quarrel with those who choose to drop the 'l.' . . . Let us have uniformity of spelling at all events" (*l. c.* p. 38). Perhaps now we shall be able to get it, for, of course, my correspondent will continue to lead his amateur friends and gentlemen of the press in the right way.

As to the idea of one name for science and another for gardens, I think we have had enough of that already. For years, Reichenbach followed this illogical and absurd system, in the case of a few genera, and with most remarkable results. In 1862, he pointed out that the plant known in gardens as Phalænopsis amabilis was not the true plant of that name, yet he continued to use the erroneous name in his subsequent writings, and in 1875, when describing Phalænopsis × leucorrhoda we find him saying:—"I have used in the Latin description the name of P. Aphrodite, . . . in the English remarks I speak of P. amabilis. The plant alluded to is, however, the same." He then went on to explain that Lindley had erroneously transferred the name from the Javan to the Philippine plant, yet it was advisable to continue the blunder "for horticultural purposes," so as (will it be believed?) "not to make a terrible confusion." And so the blunder went on until 1886, when Rolfe gave us a revision of the genus, in which he adopted the correct names; Messrs. Veitch, in their *Manual* followed suit, and the thing was done. The biggest grumble I remember to have seen against it came from Reichenbach himself.

In the same way arose his famous "double-barrelled nomenclature." After he had described Selenipedium as a distinct genus, he continued to describe the species as Cypripedium for garden purposes, and Selenipedium for science, and thus every novelty was launched with a double name—

"a system" as has been well remarked, "whose absurdity must be apparent to every one who will reflect a moment." In the same way he reduced Lælia to Bletia, yet he continued to describe novelties under both genera, and several other cases could be cited of the same illogical system.

And a precious muddle is the result. No wonder Reichenbach fought shy of those Nomenclature Conferences, the need for which he probably did as much as any man to create. We do not want botany and horticulture to speak in different languages, so that one cannot understand the other, and this is what the universal adoption of the principle would amount to. It is generally as easy to learn a correct name as an incorrect one, and when I apply to a botanical friend for the name of some Orchid, I prefer to have the correct one, not something which will have to be unlearnt again in the end. Unnecessary changes I object to as strongly as anyone, but temporary inconvenience should not prevent the adoption of those for which good reasons can be shown.

ARGUS.

ORCHIDS OF 1898.

THE past year has again emphasised the opinion previously expressed, that it is to the hybridist that we must chiefly look for a continual stream of novelties, though a few new species, and distinct varieties of previously known ones, may still be anticipated. The principal event of last year was the flowering, in the collection of Sir Trevor Lawrence, of the beautiful Eulophiella Peetersiana, whose portrait was given as a frontispiece of our last volume. Stanhopea Rodigasiana is another striking novelty, from the same collection, which, it is curious to note, secured a First-class Certificate from the Royal Horticultural Society. Zygopetalum Ballii is a striking novelty from the collection of G. S. Ball, Esq. The pretty little Orchis monophylla, a native of Upper Burma, flowered at Kew. Dendrobium hirtulum is a curious little plant, imported with D. infundibulum, from the collection of H. Grose Smith, Esq. Cœlogyne pulchella flowered in the establishment of Mr. J. W. Moore. Several others, chiefly of botanical interest, were also described, though most of them flowered for the first time prior to 1898, and of these Cirrpopetalum appendiculatum is the most remarkable. Others are noted at pages 302-305 of our last volume. Lissochilus arenarius, which has been known to science for so many years, has at last appeared in cultivation, in the collection of M. le Duc de Massa.

Among varieties of existing species may be mentioned the very beautiful Odontoglossum crispum Prince of Wales, from Messrs. Hugh Low & Co., which was figured at page 337, of our last volume. Dendrobium nobile

Ashworthianum, from the collection of E. Ashworth, Esq., which, like the preceding, secured a First-class Certificate from the R.H.S. A curious variegated form of D. nobile was recorded from two different collections. Then there is Cypripedium insigne Measuresiæ, a remarkable variety from the collection of R. H. Measures, Esq., Cattleya Bowringiana Lady Wigan, from the collection of Sir Frederick Wigan, and a few others.

Coming to the hybrids, we must first notice the remarkable achievement of M. Ch. Vuylsteke, in flowering three hybrid Odontoglossums within the year, namely: O. × loochristiense, O. × crispo-Harryanum, and O. × Rolfeæ. M. Vuylsteke must be congratulated on his success. The second, which is scarcely the most beautiful, secured a First-class Certificate at the Temple Show. A similar award went to the splendid Cattleya × Maroni, of M. Ch. Maron, who also raised Lælio-cattleya × intermedio-flava. Dendrobium × formoso-Lowii and Cypripedium × Argo-Morganiæ, were raised in the collection of Sir Trevor Lawrence, each of which secured an Award of Merit, and the former is particularly interesting, as extending the area of the hybridist's operations. Messrs. James Veitch & Sons, the pioneers of Orchid hybridisation, have again made some choice additions to the list, among which we may mention Lælio-cattleya × lencasta, Epidendrum × Phoebus, E. × radicanti-Stamfordianum, and Epicattleya × radiato-Bowringiana, Phalænopsis × Cassandra, P. × Stuartiano-Mannii, Cattleya × Gertrude, C. × Ella, Masdevallia × Imogen, M. × Circe, Cypripedium × Rothschildiano-villosum, and others, which we have not space to enumerate. Paphiopedium × Rowena, P. × Mahleræ, P. × Lily Measures, and P. × J. Coles, are handsome additions from the collection of R. H. Measures, Esq. P. × westoniense, from the collection of W. M. Appleton, Esq., is interesting as the first artificial hybrid from P. Appletonianum. Sophrocattleya × Chamberlainii is a handsome hybrid from the collection of the Right Hon. J. Chamberlain, M.P., and S. × G. Hardy another from the collection of F. Hardy, Esq. Cattleya × Thorntoni is a very handsome hybrid from the collection of T. W. Thornton, Esq. Epilælia × Charlesworth was raised by Messrs. Charlesworth & Co., and Paphiopedium × Chamber-Leeanum, by M. Ed. Pynaert. Phains × Norman is a great acquisition from the collection of N. C. Cookson, Esq., and Lycaste × Balliæ an interesting addition from the collection of G. S. Ball, Esq. A particularly noteworthy event is that artificially raised plants of Lælio-cattleya × Schilleriana have flowered, both with Messrs. Charlesworth & Co., and with M. Ch. Maron, proving the parentage which has long been assigned to it.

The above does not by any means exhaust the list, but it contains the more striking novelties, and suffices to show the marked advance which has been made within the year.

OBITUARY.

It is with deep regret that we have to announce the death, early in December last, of Major-General Emeric S. Berkeley, of Bitterne, near Southampton, in his sixty-fifth year. The deceased, who was the son of the eminent fungologist, the Rev. M. J. Berkeley, served for many years in the Indian army, during which time he paid great attention to Indian Orchids and the natural conditions under which they grow. The results of his observations were afterwards communicated to the press in a series of articles, the most important of which were contributed to our own pages under the title "Notes on Orchids in the Jungle." This series of articles relating to Dendrobium, Phalænopsis, Aërides, and allied genera of popular garden Orchids, ran through our first three volumes, and is worth re-perusal, being crowded with interesting details, which show that the deceased gentleman was a keen observer, and possessed the faculty of recording his observations in a very attractive way. We may repeat a paragraph in illustration of this:—"Phalænopsis tetraspis is a plant specially worth noting. We have not yet in England seen large plants of it, as, unfortunately, the large plants will not travel, and only the small ones reach England alive. But it is a beautiful plant in its native home. I myself saw in the South Andaman a plant which was many years old, the main stem bearing enormous leaves, quite three feet long. This plant had a progeny of children growing on the old flower-stems, and these plants again had produced other flower-stems which were also bearing plants. The whole plant was a mass of bloom, the original plant, the children, and the grand-children, all blooming at one and the same time. There were certainly at least one hundred spikes in flower at the same time on practically a single plant. This plant was quite a sight, and, as I did not gather it, I, on several occasions, took parties of officers up the creek to see it" (*supra*, i., p. 209.) This plant and the allied P. speciosa were originally introduced by General Berkeley, in 1881. He also introduced the pretty Sarcochilus Berkeleyi, Aërides Emerici, Dendrobium formosum Berkeleyi, and one or two others. On retiring, he commenced the cultivation of these beautiful plants, which he continued with great success up to the time of his death. His work was not absolutely confined to Orchids, nor will his name be remembered in connection with them alone, for it is immortalised in Emericella, a genus of Fungi, which he discovered in India, and sent home to his father, who named it after him. But it was the annals of Orchidology that were chiefly enriched by him, and in this connection his memory will long be cherished with gratitude by lovers of these beautiful plants. A note on one of his hybrids appears on the following page.

ODONTOGLOSSUM × WILCKEANUM FLAVEOLUM.

A VERY pretty Odontoglossum is figured at t. 43 of the *Orchid Album* under the name of O. crispum flaveolum, Rchb. f. A very similar form has appeared in the collection of R. Brooman White, Esq., of Arddarroch, but a comparison with the numerous forms of O. × Wilckeanum shows so many points of resemblance as to leave little doubt that it also belongs to this polymorphic hybrid. The general resemblance to O. crispum, and the total absence of spots, has probably led to its being considered a yellow form of that species, but the shape of the lip, the lateral teeth of the crest, the more toothed column wings, as well as the shape and ground colour of the sepals and petals, all show an approach to O. luteopurpureum. Indeed, it is nearer to O. × Wilckeanum sulphureum, Rchb. f., than to O. crispum, and I suspect that all the so-called yellow forms of O. crispum are of hybrid origin.

R. A. R.

THE HYBRIDIST.

EPIDENDRUM × BERKELEYI.

AT page 321 of Hansen's *Orchid Hybrids* the following note occurs:—"Epidendrum × ? (Stamfordianum ♀ × O'Brienianum). Under raising with Berkeley, Southampton, 1895. In lit. May 5, '96." The plant has now flowered, and Mr. J. Godfrey, Orchid grower to the late General Berkeley, has now sent the inflorescence and a leaf, together with the following additional information:—"In its habit of growth it is much like E. × O'Brienianum, but dwarfer and stouter, the growth from which this raceme was cut being about a foot high, and the leaf is also thicker. The seed was sown in 1895; several germinated, but only this one made any progress. If you think it distinct from Messrs. Veitch's hybrid, E. × radicanti-Stamfordianum, I should like you to call it after my late master, General Berkeley." The hybrids certainly bear a good deal of resemblance to each other, owing to their common descent from E. Stamfordianum, but they are not identical, the much darker colour of the present one being particularly noticeable, and this, of course, is due to the pollen parent being half evectum and half radicans, instead of wholly the latter, and we are quite justified in adopting the above name. The flowers combine the characters of the two parents, having the dark purple-red colour almost of the pollen parent, with the shape of lip of the seed bearer, while in other respects they are fairly intermediate. The raceme at present bears about ten flowers, but the plant has obviously not yet reached its normal development, being scarcely over three years old. It will be interesting to see the future development of the plant, for E. ×

O'Brienianum requires a large amount of room, and E. Stamfordianum should exert a dwarfing influence.

Paphiopedium × Simonii var. Actens.

A handsome hybrid has been sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by Mr. Murray, which was raised from P. × Leeanum ♀ and P. insigne Sanderæ ♂, and thus must rank as a variety of P. × Simonii, in which P. insigne Chantini was the pollen parent. How far the two differ we cannot say, not having seen the original form, but the present one shows the influence of both parents. It might be described as an unusually yellow Leeanum, with many rather small spots on the dorsal sepal, and a rather nearer approach to insigne in shape. Thus the peculiar character of insigne Sanderæ is to a great extent lost, though some of the colour remains. It is, however, very beautiful, and, with P. × Leeanum, will rank as among the best of winter-flowering hybrids. Two flowers are sent, one of which is remarkable for having the staminode replaced by a slender filament over half an inch long. Messrs. Veitch have previously raised the same cross.

CURIOSITIES OF ORCHID BREEDING.

A very interesting article entitled "Curiosities of Orchid breeding" by Mr. C. C. Hurst, appears in *Nature* for December 22nd last (pp. 178-181). It is largely a summary of the author's paper on the same subject in the *Journal of the Royal Horticultural Society*, with the addition of some interesting speculations respecting natural hybrids, which we here reproduce:—

"Natural Hybrids."

"The existence of natural hybrids was formerly thought by some naturalists to be highly improbable, if not actually impossible. But now, when absolute facsimiles of supposed natural hybrids have been raised by hand in gardens, from the same two species among which they naturally grow, they can no longer be regarded as pious speculations, but are indeed accomplished facts. The number of proved natural hybrids in Orchids alone is now very considerable, with the result that many intermediate and doubtful forms, hitherto classed as distinct species, are now placed in their proper position as natural hybrids. Mr. R. A. Rolfe, of Kew, has done yeoman service in reducing the chaos of natural hybrid Orchids to something like order. And so it has come to pass that artificial hybridisation, which it was supposed would lead systematic botany into the direst confusion, by the irony of Fate, seems destined to be the only trustworthy means of saving systematic botany from its own confusion: and the systematist, however orthodox he may be, can no longer afford to ignore artificial hybrids."
—*l. c.*, p. 180.

"EVOLUTION OF SPECIES BY NATURAL HYBRIDISATION."

"The experimental demonstration of natural hybrids shows clearly that intercrossing between different species is carried on in a state of nature, to a far greater extent than was formerly supposed: and the comparative fertility of these natural hybrids would be of vital importance to them in their struggle for life.

"If, as seems highly probable from . . . experiments with Orchids, it is the pollen only of hybrids that is impaired, and the capacity of the hybrid to bear seed crossed with the pollen of pure species remains practically unimpaired, it is quite clear that the natural hybrid has a part to play in the evolution of new species.

"As we have already seen, hybridisation tends to increase variation, especially beyond the first generation, and, naturally, the more variable the offspring the better fitted would they be to adapt themselves to changed conditions of life.

"If the circumstances changed rapidly and considerably, the variable offspring of the hybrids would stand a better chance in the struggle for life than the more uniform offspring of the parent species, which were themselves specially adapted to the old conditions. In this way, as conditions changed, new species would be evolved more fitted to the new conditions of life than the old species, which they would gradually replace, and I venture to suggest that natural hybridisation is the most rapid of nature's means towards that end."—*l. c.*, p. 181.

LÆLIAS AND CATTLEYAS.

PROF. HENSLOW, on Tuesday last, in his lecture at the Drill Hall, drew attention to the many points of similarity that exist between Lælias and Cattleyas, and to the ease with which they have been crossed with each other. The fact that in one case there are four pollen-masses, and in the other eight was not considered sufficient to justify a generic difference in the classification.—*Gard. Chron.*, Dec. 17, p. 440.

Will Prof. Henslow say what is sufficient? After uniting Cattleya and Lælia, how will he distinguish the new genus from Epidendrum and Broughtonia, on the one hand, and from Sophronitis, Schomburgkia, Brassavola and Tetramicra, on the other? And, if the number of pollen-masses is not to be taken into consideration in classifying Orchids, how does he propose to separate Octomeria from Pleurothallis, and both from Restrepia? Many genera of Orchids are big enough and difficult enough to classify without ignoring what is certainly a very useful character for this purpose. Pro. Henslow had much better leave Cattleya and Lælia where they are at present.

R. A. R.

PAPHIOPEDIUM × RICHMANII.

A flower of a particularly beautiful hybrid is sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, and one which has been already mentioned in these pages under the name of Cypripedium × barbato-bellum. Mr. White remarks, "it is the best shaped flower and the richest in colour which we have seen of this section," and in this we concur. The dorsal sepal is almost uniform deep claret-purple, the nerves being slightly darker, and a very narrow margin slightly paler. The lip is darker, and the petals paler, with only a very small green area close to the column, and the whole covered with innumerable minute blackish purple dots. Now comes the question what it ought to be called. Charles Richman is the earliest name for this hybrid, but the rules of the Royal Horticultural Society Nomenclature Committee require that this should be modified into Richmanii. On the other hand, the Laws of Botanical Nomenclature adopted at Paris, provide that hybrids of known parentage should be named after their parents, the name of the pollen parent being placed first. This would give bellatulo-barbatum, but many horticulturists have modified the rule so as to place the seed parent first. This latter rule has proved unworkable except for primary hybrids, and therefore it seems preferable to adopt uniformly the Paris rule for hybrids of unknown parentage, namely, to give a specific name, together with a cross, which is the symbol of hybridity. It seems now to be agreed that the plant does not belong to Cypripedium proper, and these reasons are adduced in justification of the name above adopted. We think this surpasses even the one called William Lloyd in richness of colouring—certainly it surpasses the one figured at page 177 of our third volume; also a flower which we are fortunately able to compare with it in a living state. Those who have very dark forms of C. bellatulum and C. barbatum should make further experiments.

Sophronitis grandiflora × Cattleya Schroederæ. Pollinated April 5, 1896. Capsule opened April 10, 1897. Seeds germinating.

Phragmipedium × Sedeni × Paphiopedium insigne. Pollinated Nov. 28, 1896. Capsule opened April 16, 1897. 50 per cent. good seeds.

Cypripedium Calceolus × Phragmipedium × Sedeni. Pollinated March 18, 1897. Capsule opened Aug. 15th. 1897. 166 good seeds.

Paphiopedium Exul × Cypripedium Calceolus. Pollinated April 16, 1897. Capsule opened Nov. 18, 1897, 597 good seeds.

Paphiopedium Lawrenceanum × Phragmipedium × Sedeni. Pollinated May 28, 1897. Capsule opened Dec. 4, 1897. A few good seeds.

Oncidium incurvum × Odontoglossum crispum. Pollinated Aug. 11, 1897. Capsule opened April 25, 1898. 2 capsules, hundreds of good seeds.

Paphiopedium insigne × Phragmipedium × Sedeni. Pollinated Dec. 13. 1897. Capsule opened Aug. 14, 1898. A few good seeds.

(2) CAPSULES FULLY DEVELOPED, OPENED NATURALLY, BUT NO SEEDS.

Lycaste Skinneri × Lælia anceps. Pollinated Feb. 15, 1897. Capsule opened March 10, 1898. A few chaffy ovules.

Lycaste Skinneri × Lælia glauca. Pollinated March 16, 1897. Capsule opened March 25, 1898. A few chaffy ovules.

Cattleya citrina × Sophronitis grandiflora. Pollinated April 14, 1897. Capsule opened Oct. 31, 1897. Many chaffy ovules.

Angraecum sesquipedale × Lælia purpurata. Pollinated May 9, 1897. Capsule opened July 31, 1897. Full of cottony fibres.

Paphiopedium insigne × Odontoglossum crispum. Pollinated Nov. 18, 1897. Capsule opened Oct. 8, 1898. A few chaffy ovules.

Angraecum sesquipedale × Vanda tricolor. Pollinated Jan. 1, 1898. Capsule opened May 25, 1898. Many cottony fibres.

(3) CAPSULES PARTLY FORMED.

Ada aurantiaca × Lælia glauca. Pollinated March 16, 1897. Capsule dropped April 12, 1897.

Cattleya Mossiæ × Angraecum sesquipedale. Pollinated May 9, 1897. Capsule dropped July 1, 1897.

Dendrobium Phalænopsis × Odontoglossum nobile. Pollinated July 12, 1897. Capsule dropped July 20, 1897.

Epidendrum cochleatum × Dendrobium Phalænopsis. Pollinated July 12, 1897. Capsule dropped August 8, 1897.

Epidendrum cochleatum × Odontoglossum nobile. Pollinated July 18, 1897. Capsule dropped August 7, 1897.

Epidendrum cochleatum × Odontoglossum crispum. Pollinated July 25, 1897. Capsule dropped August 9, 1897.

Epidendrum cochleatum × Odontoglossum crispum. Pollinated August 11, 1897. Capsule dropped August 25, 1897.

Epidendrum fragrans × Odontoglossum crispum. Pollinated June 29, 1898. Capsule dropped August 3, 1898.

Cattleya Leopoldi × Dendrobium Phalænopsis. Pollinated July 12. 1897. Capsule dropped July 24, 1897.

Epidendrum fragrans × Cattleya Mendelii. Pollinated June 29, 1898. Capsule dropped Aug. 3, 1898.

(4) FAILED TO SET CAPSULES.

Lælia anceps × Lycaste Skinneri. Pollinated Feb. 15, 1897. Flower faded in 11 days.

Lælia glauca × Lælia harpoyhylla. Pollinated March 16, 1897. Flower faded in 8 days.

Lælia glauca × Sophronitis grandiflora. Pollinated March 16, 1897. Flower faded in 8 days.

Dendrobium Phalænopsis (2 fl.) × Cattleya Leopoldi. Pollinated July 12, 1897. Column withered, pollen fresh.

Paphiopedium insigne × Cattleya Bowringiana. Pollinated Nov. 18, 1897. Pollen dried up, flower fresh.

Paphiopedium insigne × Dendrobium formosum. Pollinated Nov. 18, 1897. Pollen rotted stigma away.

Epidendrum fragans (2 fl.) × Dendrobium Phalænopsis. Pollinated June 29, 1898. Column withered, pollen fresh.

Epidendrum fragrans (2 fl.) × Dendrobium Dearei. Pollinated June 29, 1898. Column withered, pollen fresh.

Epidendrum fragrans (3 fl.) × Paphiopedium niveum. Pollinated June 29, 1898. Column withered, pollen decayed.

C. C. HURST.

DENDROBIUM FINDLAYANUM PROLIFEROUS.

A plant of Dendrobium Findlayanum in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, is flowering in a remarkably abnormal way. The racemes are produced in the usual way, but the buds are globose, about one-eighth of an inch in diameter, and the segments are represented by small green scales surrounding the abortive column, and refuse to develop further. Mr. Wrigley thought the spikes were deformed until he examined several with a lens, and found that all the parts of the flower were present, though very minute. Last year they were perfectly identical in character, but the plant seems perfectly healthy and normal in other respects. It was purchased as an imported piece with other plants of D. Findlayanum, and is instructive in connection with the development of an Orchid flower, though, from a decorative point, it has nothing to recommend it.

R. A. R.

PAPHIOPEDIUM SEED AND THE TIME TO SOW IT.

Under the above heading, a table was given in the *Orchid Review* for January last (page 7), showing the result of sowing Paphiopedium seed in the various months throughout a series of years, 1892 to 1897 inclusive. As sowings up to the very end of December, 1897, were included, this table was necessarily incomplete, further successes being practically certain. Another twelve months having now passed, I think it may reasonably be brought to a conclusion, for any further discoveries would not be likely to materially alter the position.

During the year 1898, my gardener, Mr. Thomas J. Poyntz, has shown me 46 new batches of Paphiopedium seedlings, 29 of which are the results of sowings prior to the 1st January, 1898. If these further successes are added to the old list, a revised table should read as follows:—

Table showing the number of successful sowings of Paphiopedium seed, during the months specified, in the years 1892 to 1897 inclusive.

January	72	sowings	28	batches of seedlings.
February	24	,,	7	,,
March	32	,,	6	,,
April	19	,,	3	,,
May	14	,,	3	,,
June	10	,,	2	,,
July	13	,,	0	,,
August	31	,,	4	,,
September	33	,,	7	,,
October	44	,,	13	,,
November	99	,,	24	,,
December	102	,,	38	,,

This seems to confirm the opinion previously expressed: that the winter months are not in any way detrimental to the sowing of Paphiopedium seed. The percentage of success is somewhat improved, and I am happy to state that the improvement belongs chiefly to the last three years, the 46 batches in one year being the best result I have yet obtained, the average sowings being 116 per annum for the years 1895, 1896, and 1897.

If I may be permitted to offer an opinion as to the cause of greater success, I would attribute it to the fact that, for the last few years, I have invariably sown the seed on recently potted plants, the materials used being the best sphagnum moss and Orchid peat obtainable. Under these circumstances, the compost remains sweet and fresh for a considerable period, and not only do the seedlings come up in a healthier condition, but I am enabled to leave them on their original bed until they have gained sufficient strength to better stand removal.

REGINALD YOUNG.

A GROUP OF WINTER-BLOOMING PAPHIOPEDIUMS.

THE accompanying illustration represents a very beautiful group of winter-blooming Paphiopediums from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, and is reproduced from an excellent photograph taken by

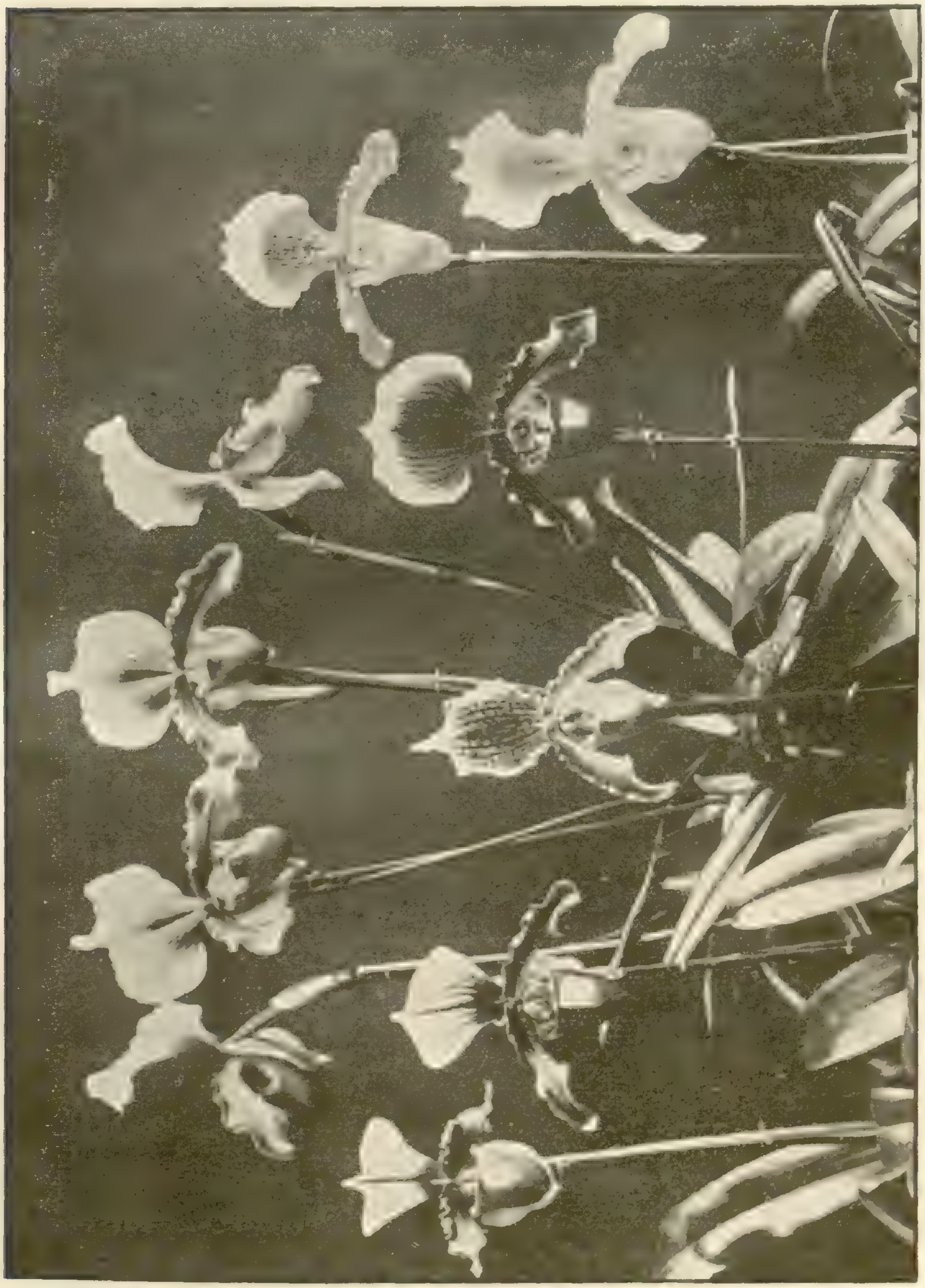

FIG. 1. P. × LEEANUM GIGANTEUM. 2. P. INSIGNE ERNESTII.
3. P. SPICERIANUM. 5. P. × ARTHURIANUM. 7. P. I. SANDERÆ.
4. P. × TITYUS. 6. P. × MINOS.

Miss Wrigley, who is a very accomplished photographer, and has helped to adorn the pages of the *Review* on more than one previous occasion. Before describing them individually, we would remark that groups of this kind

have a special interest, for it is sometimes possible not only to include closely allied hybrids which flower at the same time, but also one or both parents, and as all are necessarily represented upon precisely the same scale, they can be much better compared than when taken under varying conditions. Miss Wrigley must be complimented both upon her artistic arrangement of the group, and on the clearness with which the details of each flower are brought out. The flowers are represented slightly under a third natural size, the dorsal sepal of P. × Minos, here shown as ¾-inch broad, being exactly 2⅜ inches in the living flower.

P. × LEEANUM GIGANTEUM (fig. 1) is represented by the four uppermost flowers, and is the finest form known of this beautiful hybrid. It was raised by Messrs. Heath and Son, of Cheltenham, from P. Spicerianum ♀ and a fine form of P. insigne, and first flowered in the autumn of 1890. It has fewer purple spots on the dorsal sepal than many other forms, and these are chiefly arranged along the median line.

P. INSIGNE ERNESTII (fig. 2) is seen in the next flower to the right. It differs slightly from P. i. Sanderæ (beneath it) in shape, the dorsal sepal being rather rounder, and the yellow area bears some indistinct spots which are absent from the other. The petals also are more distinctly reticulated, though in other respects it comes very near to the variety Sanderæ. It first appeared in the collection of R. I. Measures, Esq., of Camberwell, and was described at page 362 of our first volume.

P. SPICERIANUM MAGNIFICUM (fig. 3) appears on the left of the lower row of flowers, and is a fine variety of the species, which Mr. Wrigley remarks is the finest which he has seen. This species has been a most popular one with hybridists, and it is interesting to note that it was the seed parent of three of the hybrids here figured: P. × Leeanum giganteum (fig. 1), P. × Tityus (fig. 4), and P. × Minos (fig. 6).

P. × TITYUS (fig. 4), which comes next, is a very beautiful secondary hybrid, which was raised by Messrs. James Veitch and Sons from P. Spicerianum ♀ and P. × œnanthum superbum ♂, and first flowered in the autumn of 1892. Its parentage is therefore rather complex, and an analysis shows Spicerianum ½, insigne ¼, and villosum and barbatum each ⅛.

P. × ARTHURIANUM (fig. 5), which occupies the centre of the lower row, is one of Messrs. Veitch's early hybrids, and owes its origin to the intercrossing of P. insigne ♀ and the rare P. Fairrieanum ♂, a single seedling only being obtained, which flowered in the autumn of 1874. It is unmistakably intermediate between its parents, and though not brilliant in colour, the shape and markings are very elegant. It is one of the parents of the succeeding hybrid. It was figured at page 305 of our first volume.

P. × Minos (fig. 6) comes next, and was also raised by Messrs. Veitch, the parents being P. Spicerianum ♀ and P. × Arthurianum ♂. It

flowered for the first time in the autumn of 1893. It is a noble looking hybrid, combining the characters of its parents better than would appear at the first glance, for the similarity to P. Spicerianum in the shape of the dorsal sepal is lost owing to the way the latter is reflexed at the sides. The influence of the other parent is seen in the markings and in the modified shape of the petals and staminode.

P. × INSIGNE SANDERÆ (fig. 7), the last figure on the right, is too familiar to require further comment, having twice previously been figured in these pages (ii. p. 41, and vi., p. 17), but its inclusion in the present group enables it to be compared with the allied variety Ernestii in a very effective way.

Should any of our readers care to experiment with groups of this kind it would be useful to note the size and arrangement of the present one, and that the reduction to one-third natural size still shows plenty of character. In this way some of the allied hybrids with their parents can be very graphically represented. Lastly, the background should always be selected so as to form a good contrast with the flowers.

ORCHIDS IN SEASON.

WINTER-BLOOMING Orchids are now a large, and, thanks to the efforts of the hybridist, a constantly increasing class ; and a glance through our houses during the Christmas holidays reveals a wealth of bloom which would have surprised our compeers of a generation ago. Even the species which were then grown are now in several cases represented by a series of brilliant varieties which had not then made their appearance, while the hybrids were both few in numbers, and only represented in a few collections. Conversely, a few other species were then more generally grown than at present, but in the main they have been displaced by showier species, and their disappearance is therefore the less to be regretted.

Perhaps the most popular of the species now in flower is Lælia anceps and its numerous beautiful varieties, ranging as they do through shades of purple and pink to white, with a considerable amount of variation in shape, and in the markings on the lip. The numerous varieties were collected and described at pages 50-53 of our fourth volume. Scarcely less beautiful is L. autumnalis, though owing to the slight amount of variation it is not nearly so popular. The dark variety atrorubens, and the chaste variety alba are both distinct and good. L. albida is much smaller, but very floriferous, and its variety sulphurea is very pretty and novel in colour.

The Calanthes are equally brilliant, and owing to the absence of fog

have been particularly effective this season. The crossing of C. vestita and its varieties with C. rosea and labrosa has resulted in a series of beautiful forms ranging from pure white to deep carmine-crimson, which it would take some space to enumerate. Zygopetalum intermedium is now carrying several noble spikes of large and very fragrant flowers, and is a long way the most effective of the genus, besides being of the easiest possible culture. Epidendrum ciliare is now flowering very freely, and its beautifully fringed white lip contrasts very effectively with the green sepals and petals. As it is of robust habit it would probably be worth while to cross it with some of the brilliantly coloured Cattleyas and Lælias. Crossed with Lælia anceps it yielded the beautiful Epilælia × Hardyana, and there is also the pretty little Epidendrum Wallisio-ciliare, so that there is every reason why further experiments should be made. E. fragrans is a very old and floriferous garden plant, whose flowers are very fragrant, and last for weeks in perfection. This also might be utilised as a seed parent. Cymbidium grandiflorum is now flowering well.

Scarcely are Dendrobium formosum and Phalænopsis over before the winter flowering species begin, and foremost among them must be mentioned the pretty little D. moniliforme (japonicum) and its charming hybrids, D. × endocharis, × euosmum, and × Cassiope. A pseudobulb of the latter, sent by Mr. Cypher, is literally wreathed with its pure white flowers, which are set off to great advantage by a deep crimson blotch at the base of the lip. D. primulinum and aqueum are also flowering well, and various others are progressing rapidly towards the flowering stage.

In the Cool house several brilliant gems are in flower, as Odontoglossum Rossii, the charming little O. Cervantesii, and O. retusum, which quite makes up in its rich orange colour what it lacks in size. The allied Cochlioda vulcanicum is very brilliant, and Sophronitis grandiflora is now commencing its annual display. Oncidium varicosum is flowering in profusion, as are the pretty little O. ornithorhynchum and cheirophorum. Lastly may be mentioned the charming little Masdevallia × Hincksiana, whose flowers always open buff yellow, and change to ivory white, giving the plant a remarkably Janus-like appearance, especially when the two colours are seen on the same peduncle.

The Paphiopediums add largely to the display, the numerous varieties of P. insigne being still good, together with P. Spicerianum, venustum, and the numerous hybrid forms which flower at this season. A fine series of these is sent from Cheltenham by Mr. James Cypher, who writes that he has over two thousand blooms open. Eight forms of P. insigne, and a similar series of P. × Leeanum, show the range of variation in a very striking way, very conspicuous among the latter being the massive variety giganteum. Other forms are P. × Arthurianum, splendidly developed, ×

Moensii with brilliantly coloured dorsal sepal, the beautiful P. × Ceres Fascinator, and the very richly coloured × William Lloyd, which has been out for two months, and received a F. C. C. at the Manchester Chrysanthemum Show. Flowers of Dendrobium Phalænopsis, Vanda cærulea, Oncidium Kramerianum, and others show that there is no lack of flowers at this season, and that many of them are highly suited for cutting for decorative purposes.

HYBRIDISING AT BURY.

THE enclosed particulars of my hybridising work during the past year may be of interest. For some reason the year has not been favourable to the germination of the seeds, as much seed that was sown has not germinated at all. The following is a list of crosses among Cypripedes, sown in 1898, from which seedlings have already appeared. I may explain that the names in the first column represent the seed-parent, and those in the second the pollen-parent, while the numbers in the third column represent the seedlings now alive:—

× Ashburtoniæ		crossed with	Lawrenceanum atrorubens	17
barbatum	,,	,,	bellatulum	11
bellatulum	,,	,,	Lawrenceanum atrorubens	1
callosum splendens	,,	,,	villosum giganteum	18
Curtisii	,,	,,	bellatulum	15
× Harrisianum superbum	,,	,,	Rothschildianum	2
insigne ornatum	,,	,,	× œnanthum superbum	11
,, Wrigleyanum	,,	,,	× Arthurianum	1
× Io grande	,,	,,	× Harrisianum superbum	1
× Lathamianum roseum	,,	,,	× Lucienianum	2
× Leeanum burfordiense	,,	,,	× Harrisianum superbum	4
,, superbum	,,	,,	Boxallii atratum	3
,, ,,	,,	,,	Charlesworthii	4
× Swanianum	,,	,,	Exul magnificum	18
tonsum	,,	,,	× Harrisianum superbum	4
× Wallaertianum	,,	,,	Chamberlainianum	1

The hybrids are raised from the finest varieties which I possess, or could obtain pollen from, so that there should be some good blooms among them, if they live to bloom.

O. O. WRIGLEY.

Bridge Hall,
Bury.

CALENDAR OF OPERATIONS FOR JANUARY.

By H. A. Burberry, King's Heath, Birmingham.

The temperatures for the month should be maintained as near as is possible to the following figures:—

Cool house: Day, 55°; night, 50°: morning, 45°.
Intermediate or Cattleya house: Day, 60°: night, 55°; morning, 50°.
East Indian house or Stove: Day, 65°; night, 60°; morning, 55°.

The above figures are given as a guide for the grower to work to. I know that it is not always possible to maintain the thermometer exactly to a stated degree, nor indeed is it necessary for the welfare of the plants. Let the above be a guide, allowing the temperatures to fluctuate five degrees above or below, according to the conditions of the weather outside.

Cool house.—This department is one that can be described as an ordinary Greenhouse, having sufficient hot water arrangements to maintain a temperature of not less than 40 degrees during severe weather, and which should be kept rather more shady and moist during the summer months than that in which ordinary Greenhouse plants are grown. Having said this, I have said all. What, then, is there to prevent the merest amateur from growing Cool Orchids if he feels disposed to do so? The cost in management is plainly nothing more than that of the most common of plants, while the cost in procuring Orchids in these days of enormous competitive importations can almost be said to be on the same level. This Cool Orchid house should, during this month, give but little trouble as regards damping, watering, &c. If the thermometer is maintained at about the figures given, water distribution for the purpose of causing a moist atmosphere need not take place more than once daily, and in mild damp weather even this may not be necessary. The plants should all, without exception, be kept on the dry side—that is to say, let the compost get pretty dry before giving water. It is not possible to say how often a plant should receive water, because so much depends on the size of the pot, and the corresponding amount of compost about the roots. Again, one house may naturally dry up more quickly than another. Therefore, I will say in the old and somewhat vague language, water just sufficient to maintain plumpness in the pseudobulbs. Give air on all occasions when the outside conditions permit, for if one thing more than another is conducive to the keeping of Orchids in a sound and healthy state, it is fresh, pure air administered in such a manner as to cause no draughts. Cool Orchids mostly prefer to be shaded from direct sunshine when it has much power, but no shading whatever should be employed this month. Although requiring shade in hot weather, they are nevertheless light loving plants, and should therefore be grown as near the roof-glass as it is convenient to place

them. A plant well exposed to the light will not become drawn and weakly, making, perhaps, long, green leaves which are unable to support their own weight. On the contrary, they will be robust and sturdy, and of about the same proportions as that of the growth made in their natural habitat. Plants so grown will not only bear looking at, but will also bear a considerable amount of what gardeners term hardy rough treatment with impunity, seeming to revel therein.

A good many inmates of this department will now be showing their flower spikes for blooming at a later date. Amongst them will be Odontoglossum crispum, O. triumphans, O. Hallii, O. luteopurpureum, O. polyxanthum, and O. Pescatorei, but the mere fact of these showing their flowering spikes need not prompt the cultivator to alter the treatment one iota. They should still receive the same cool and airy treatment, and still be kept moderately short of water at the root; they will then come along slowly but surely, and make a finer show when they bloom, inasmuch as the blooms will be of a better quality than would result if any forcing tactics were followed. It is just at this period that slugs and yellow thrip are a particular nuisance. They discover the young tender spikes and will soon devour or permanently disfigure them unless prevented from doing so. With the judicious help of Richardson's X.L. all vapour insecticide, thrip should really be no trouble whatever, but in spite of this boon one may often see Odontoglossum spikes totally destroyed by the depredations of these pests. Should there be any fear whatever, I strongly advise the use of Fowler's tobacco powder. This should be sprinkled down the axils of the leaves, and no thrip will there exist. So likewise should the spike, after it has emerged from the axils, be dusted over at intervals; this acts as a preventive, and prevention is better than cure. It also acts as a great preventive against attacks by slugs, snails, aphides, &c.

The flower spikes of several other species will be further advanced, in fact, some few may already be in bloom, whilst others are fast approaching that state. Amongst these will be found Odontoglossum gloriosum, O. odoratum, O. × Andersonianum and its varieties, Ruckerianum and hebraicum. As regards the watering of these last-named kinds, or any other species that may be in a like condition, I may say that the supply should be somewhat increased. Very weakly plants should, of course, not be allowed to bear a spike, or they will suffer greatly by shrivelling, no matter how much water they receive. Strong plants will yield their harvest of bloom without showing any signs of stress whatever, but they should, of course, be given rather more water as they grow and develop, otherwise we all know that the plant would suffer, no matter how strong it may be.

Several complaints have recently reached me of the flower buds, and sometimes the whole spikes, of some of the above-mentioned species turning

yellow and failing to come to perfection. It also happens amongst my own, and I believe similar cases occur in every collection. To say why this should occur is no easy matter, though I believe it must not always be put down to wrong or neglectful treatment. I have oftimes noticed this premature decay of the spikes take place with O. crispum, O. triumphans, O. gloriosum, and others, when the spikes themselves have been premature, or, in other words, when they have pushed up almost before the pseudobulbs have completed their growth, and therefore before the latter have become in the least matured or ripened. The spikes so thrown seem to grow very quickly, but to be sappy and tender, rendering them susceptible to injury from the slightest check. Therefore, to hastily put down this failure to a too liberal or erroneous treatment is scarcely possible. I have also noticed among the crispums that those plants which so quickly produce their flower spikes in this manner are invariably the poorest of the poor varieties. Should the buds on a spike which proceeds from a well-ripened, strong pseudobulb fail as described, then one may begin to ask himself a few questions, and consider whether his plants have been subjected in any way to extremes, such as too much heat, drought, stagnant air, cold, or steam, the latter arising from water coming in contact with the hot water pipes during watering or syringing. Failing any of these causes, he should examine the buds closely for traces of red spider or thrip, both of which would soon cause them to fall off.

Odontoglossum Rossii is an exceedingly useful and popular Cool house species, and is just now commencing to produce its pretty flowers in abundance. This is probably the hardiest of all exotic Orchids cultivated under glass. I have known other Cool species to perish from cold, but never this one unless actually frozen. It is certainly best grown suspended, for several reasons. Firstly, because it greatly appreciates an airy position. Secondly, because it prefers much less water at the roots at all seasons than most other species. And, thirdly, because it resents root disturbance. If the above little matters are remembered, O. Rossii will rarely require to be pulled about for the purpose of repotting, because its roots will remain perfectly healthy in their confined space—a small receptacle seeming to suit them best. The foliage will also be perfect; not decaying at the apex as it is prone to do. Here again, yellow thrips are very troublesome, and will soon destroy a whole crop of flowers if not discovered and dislodged in time. If they are present, in however small numbers, take some tobacco powder, and dust it well down on the spike as soon as it can be seen making its appearance, repeating the same at intervals. Thrips, too, have a way of forcing themselves into the bud long before its proper time to expand, and at this stage even tobacco powder is not an effectual remedy, because it cannot touch them.

Odontoglossum Cervantesii is another lovely, chaste little thing, and fully repays the grower for treating it well. In fact, unless it is well cultivated, it appears more or less weak and miffy, but when properly grown, and the plants producing three or four spikes from a 2½-inch pan, each spike bearing from three to five flowers, it is exceedingly pretty and attractive. It should be treated exactly as the preceding species, O. Rossii.

Another most popular and showy species is Sophronitis grandiflora, which I always like to see in bloom by January, even if a little extra warmth has to be given during the autumn; otherwise, the season of its growth is retarded—a matter which is best avoided if possible. After the blooms are over, it will remain inactive for some few weeks before it recommences to grow, during which time it should be kept pretty dry at the root. No great delay, however, will take place before new roots and the new breaks are seen to make their appearance, at which time all the re-potting considered necessary should be done. The less delay the better after that period. This, also, is best grown in small baskets and pans, and suspended, and when so grown and carefully watered should require root disturbance only at intervals of several years or when they have actually out-grown their receptacles.

INTERMEDIATE, CATTLEYA, AND MEXICAN HOUSES.—These are practically, for all intents and purposes, one and the same house, and, during winter, must necessarily receive the same management, because of the small amount of sunshine. During the summer, of course, it is a different thing. It is then very useful if a compartment can be set aside for what we term Mexican Orchids, because then the amount of bright sunlight which they require can the more easily be administered without the fear of injuring the more shade-loving intermediate Orchids, such as many of the Oncidiums, Odontoglossums, Cypripediums, &c. For the present we will speak of it as the Intermediate house. As regards the general management of this house and its inmates, not much can be added to the instructions given for the Cool house. It will be a quiet month in all respects; therefore we need simply keep the thermometer near the stated figures, and not attempt in the least to force the growth too rapidly at this dull season, leaving that for brighter and longer days. I have always noticed that the better the plants are staged and strengthened in winter, by rational unexciting treatment, the more rapidly and strongly they grow when the proper season arrives, and the outside conditions admit of giving them a really growing atmosphere.

The amount of water distributed for purposes of evaporation may, perhaps, be slightly in excess of the Cool house, so as to correspond with the slightly increased amount of fire heat required. The watering at the

root must here also be done with a good deal of discretion, giving simply enough in each case to keep the plants plump and fresh, and a very little indeed will suffice for this purpose. The same remarks will apply equally to the East Indian house.

Dendrobiums, which have been resting and keeping back in their proper places in a vinery or greenhouse, may now be brought into an intermediate temperature, in batches, as desired for flowering, letting D. Wardianum, Devonianum, Falconeri, thrysiflorum, and densiflorum remain for the last batch. These are fond of a good, long, cold rest, and succeed the better if they receive it. Do not give much water at first, but slightly increase the supplies when the flowers are near their development.

Little or no re-potting is advisable for this month, but a good supply of fresh sphagnum moss should be secured, together with good fibrous peat, so that everything may be ready when the busy season commences; for it often happens that, just at the time when we could get on with our indoor potting, a little later on, we are prevented from doing so on account of the sphagnum being locked up by frost, and thus valuable time is wasted.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE last meeting of the year was held at the Coal Exchange, Manchester, on December 15th last, when many showy Orchids put in an appearance, and the following members of the Committee were present:—Messrs. G. Shorland Ball (in the chair), Statter, Greenwood, Leemann, Bolton, Cypher, Holmes, Johnson, and Mills (hon. sec.)

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a very fine plant of Cypripedium insigne Sanderæ with four very large blooms (First-class Certificate and Cultural Certificate), C. i. undulata, a large form with the dorsal sepal covered with large blotches and the edges much frilled (Award of Merit), C. × Actens (× Leeanum × insigne Sanderæ), a very interesting cross raised by Messrs. Veitch, and being almost exactly intermediate between the two parents (Award of Merit), C. × Leeanum Porcelianum, Cattleya chocoensis Stella, with pure white sepals and petals, and white lip, with a small red spot in the centre and a yellow throat (Award of Merit), Cymbidium × Winnianum with an eleven-flowered spike (Award of Merit), Dendrobium glomeratum, an exceptionally large form (Award of Merit), and the pretty but now somewhat scarce Oncidium cheirophorum. The same exhibitor also staged in his group Cypripedium × Dautheri Albino, C. × Leeanum giganteum, C. × Arthurianum, C. × nitens

magnificum, C. insigne albens, Cymbidium giganteum, Oncidium tigrinum with very large spikes, various seedling Calanthes, and other interesting things. The group was awarded a Silver-gilt Medal.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælia anceps Leemanni (Award of Merit), Lycaste Skinneri, and Odontoglossum crispum.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Lælia anceps alba, called Bull's variety, to which a First-class Certificate was given.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Lælio-cattleya × Tresederiana, Cypripedium × Leeanum superbum, C. × L. pendulum, C. × Ariadne (Award of Merit), C. insigne Sanderæ with two fine flowers (First-class Certificate), C. i. splendens (Award of Merit), C. i. Ernestii, a very good form (Award of Merit), C. i. leopardinum, and C. Spicerianum magnificum. The group also included a very fine lot of Dendrobium Phalænopsis, and some excellent forms of Cypripedium × Leeanum, and received a Silver-gilt Medal.

Henry Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Cypripedium Antigone (niveum × Lawrenceanum).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium insigne Sanderæ (First-class Certificate), C. i. magnificum (Award of Merit), C. i. Ernestii, C. i. Youngianum, C. concolor, C. tonsum, C. callosum superbum, an exceptionally fine form (Award of Merit), C. × Harrisianum superbum, C. Minos (Award of Merit), C. × Leeanum magnificum, C. × L. superbum, C. × Pitcherianum (Award of Merit), and Dendrobium Findlayanum. A Vote of Thanks was awarded for the group.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Lælia anceps Chamberlainiana (First-class Certificate) and Odontoglossum × aspersum.

William Bolton, Esq., Warrington (gr. Mr. Cain), showed a wonderful form of Oncidium varicosum Rogersii with flowers over 2½ inches across (First-class Certificate), a very dark form of Cattleya labiata named Boltoniana (Award of Merit), and Cypripedium insigne Bolton's variety, very heavily spotted, but rather a small flower.

Charles Parker, Esq., Ashton-on-Ribble, showed Cypripedium × Parkerianum (Boxallii atratum × nitens superbum), a very fine hybrid with the dorsal sepal quite flat, a merit conspicuous by its absence in so many of the Cypripedium hybrids one sees. It received a First-class Certificate.

Mr. Keeling, Bingley, showed Cypripedium × Lily (niveum × bellatulum), C. × Norma (Spiceriana × Niobe), C. insigne Youngianum, Cymbidium Hookerianum, and a Cypripedium entered as Fairrieanum, but which the Committee declined to adjudicate upon, being of unanimous opinion that it was incorrectly named.

CYPRIPEDIUM NIVEUM AS A PARENT.

(Continued from Vol. VI., p. 365.)

THERE are two names recorded of the cross between C. niveum and C. Spicerianum (*Hansen's Orch. Hyb.*, p. 297) C. × Isabellæ, and C. × Spicero-niveum, while a third, C. × Marriottianum, is possibly of the same parentage (*O. R.*, iii., p. 351).

C. × Georgianum represents the union of C. superbiens and C. niveum (*O. R.*, ii., p. 164), and C. × The Pard is supposed to be derived from the same parents (*O. R.*, ii. p. 317). This last obtained an Award of Merit in 1894.

In the *Lindenia* for 1895 (vol. ix., p. 15), appears a picture and description of C. × Madame Octave Opoix, the parents being C. × superciliare and C. niveum. The influence of C. niveum is well shown in the flower. I have one seedling of this cross of my own raising, discovered 6th March, 1897, but so far it has made very little progress.

C. × Olivia, which received an Award of Merit in London and a First-class Certificate in Manchester in August last, is recorded as a hybrid between C. tonsum and concolor (*O. R.* vi. pp. 285, 286), but it is probable that C. niveum was the second parent. I saw two plants in bud at Bush Hill Park in July last, and Mr. E. V. Low told me that they came from America, the parentage given being tonsum crossed with niveum, though it was thought that some mistake had been made, and that C. concolor was the second parent. He has since written, however, that as the flower has become mature the niveum character has developed, and no doubt the record of niveum is correct. Mr. J. O'Brien also thinks C. niveum much more probable. (See also *Garden*, liv, p. 129, and *Journ. of Hort.*, Aug. 25, 1898, pp. 142, 143.)

C. × Saron, derived from C. niveum × (?) venustum Measuresianum (*O. R.* vi, p. 28), completes the list of those hybrids having C. niveum for one of the parents.

So far as I can ascertain, there is only one instance on record of any one of these hybrids having become a parent in its turn. The case alluded to is that of C. × Tautzianum, which conjointly with C. callosum has produced C. × Nandii (*O. R.* ii, p. 310). It received an Award of Merit in 1894.

Statistics are usually considered dry reading, but if a list could be compiled of the number of these plants that have flowered and proved true, now in existence in the collections of this country, the Continent, and America, how very interesting it would be to many of us. Failing these figures it can only be a matter for surmise, but I think it may safely be inferred that the number is small. The absence of quotations in the Cata-

logues of the Trade, and the very few occasions on which any of them appear to have been exhibited, point to this conclusion. I am afraid that many of the seedlings die at a very early stage, and that the survivors take long to develop into good established plants capable of division. Notwithstanding these drawbacks, it seems to me that here is a field open to the amateur, well worthy of his best efforts. It will be readily admitted that this section of the Cypripediæ contains some of the most beautiful at present known, while the possibility of raising others equally good is by no means exhausted. A moderate success would be ample compensation for the time and trouble expended in this interesting pursuit.

An addition must be made to the record of C. × calloso-niveum (*ante*, vi., p. 363). This cross has again been recorded under the name of C. × Mrs. Edgar Cohen (*G.C.*, 1898, xxiv., p. 203; *O.R.*, vi., p. 317). It was derived from C. callosum ♀ and C. niveum ♂, and thus is the reverse cross to the original form, but, of course, only a variety of it. An error seems to have crept into the note in *O.R.*, vi., 317, where C. × Mrs. Edgar Cohen is spoken of as a variety of C. × Winifred Hollington (probably taken from *Hansen*, p. 183), for the parentage of this latter hybrid was correctly given in an earlier volume (iii., p. 157), as C. ciliolare ♀ × niveum ♂.

It seemed necessary to use the old name Cypripedium in this paper, as most of the records are under it. I hope, however, to see Paphiopedium and Phragmipedium more generally adopted—for both are evidently good and distinct genera—and this will probably be the case as they become more familiar, and new hybrids come to be recorded under these names.

Liverpool. REGINALD YOUNG.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was again a fine display of Orchids at the Drill Hall, James Street, Westminster, on December 13th, when the last meeting of the year was held. The following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. J. Chapman, S. Courtauld, De B. Crawshay, T. B. Haywood, E. Hill, G. W. Law-Schofield, H. Little, H. M. Pollett, W. H. White, and W. H. Young.

The President, Sir Trevor-Lawrence, Bart., Burford, Dorking (gr. Mr. W. H. White), staged a splendid group, with a frontage of about 25 feet, to which a Silver Flora Medal was awarded. The most important feature was the hybrid Calanthes, which included such handsome forms as C. × amabilis, pink with white centre, C. × bella, rose with white eye,

bearing a dark blotch, many well-bloomed plants of C. × burfordiensis, with carmine-crimson flowers, C. × Veitchii splendens, a richly-coloured form, C. × versicolor, with deep rose eye, C. × Victoria-Regina, a charming light pink form, and C. × revertens, a brilliant carmine-crimson form of unrecorded parentage, to which an Award of Merit was given. Other noteworthy plants included were some fine forms of Cypripedium × Leeanum, C. × Ceres Fascinator, and a pretty home-raised form of Odontoglossum × Wilckeanum, with light yellow ground marked with reddish brown spots.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), also received a Silver Flora Medal for a very fine group, including an interesting series of Cypripedium insigne varieties, conspicuous among which were C. i. Sanderæ and C. i. Ernestii. Other fine things were C. × Allanianum superbum, forms of C. × Leeanum, C. × Behrensianum, C. × Milo, C. × Zeno, C. × Wottoni (bellatulum × callosum), and a very similar form derived from C. × Godefroyæ leucochilum and C. callosum, which is a remarkable example of quick development, for the seed was only sown in January, 1896. Among other genera were the remarkable Pleurothallis punctulata, Masdevallia × Measuresiana, M. pachyura, Cattleya × Miss Harris, and Lælio-cattleya × Schilleriana.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), sent a fine collection of cut Cypripediums, which might, however, have been arranged with better effect. Among noteworthy forms C. × Niobe, C. × N. superbum, some good C. Spicerianum, C. × Leeanum superbum, C. × L. giganteum, and other forms of this handsome hybrid, the clear yellow C. insigne Dorothy and other forms of the species; also a fine spike of Cymbidium Tracyanum, Lælia anceps, &c. A Silver Banksian Medal was awarded.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), staged a good group, consisting chiefly of Cypripediums, the more noteworthy being C. Spicerianum, C. Stonei, C. Chamberlainianum, C. tonsum, C. × Lathamianum, and C. × Behrensianum, but other good forms were also included. A Bronze Banksian Medal was awarded to the group.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent a well-bloomed plant of Cypripedium insigne Harefield Hall variety, whose flowers are gigantic in size and perfect in other respects. A First-class Certificate and a Cultural Commendation were awarded.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent the interesting Lycaste lasioglossa, which received a Botanical Certificate.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed Odontoglossum × Andersonianum platychilum, like the variety Ruckerianum in colour, but remarkable for having a much broader, nearly flat lip.

Sir William Marriott, Down House, Blandford (gr. Mr. Denny), showed a fine hybrid seedling, said to have been obtained from Lælio-cattleya × elegans and Cattleya Warscewiczii.

G. C. Roberts, Esq., Nottingham, sent a fine infloresence of Cymbidium × Winnianum.

G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall, Manchester (gr. Mr. Schill), sent a fine Cypripedium × Norma (Spicerianum × Niobe).

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), sent Lycaste cruenta, and a very fine plant of Dendrobium aureum covered with flowers, a Cultural Commendation being awarded to the latter.

Messrs. James Veitch and Sons, Royal Exotic Nursery, Chelsea, sent a very choice group, to which a Silver Banksian Medal was given. It contained the beautiful Lælio-cattleya × Decia, L.-c. × Semiramis, L.-c. × Andreana var. Agnes, L.-c. × Frederick Boyle (C. Trianæ ♀ × L. anceps ♂) and an allied form called variety amœna (C. Trianæ ♀ × L. anceps Veitchiana ♂), distinguished by its paler lip, Epidendrum Endresio-Wallisii, Cattleya × Ariel (Bowringiana ♀ × Gaskelliana ♂), Phalænopsis × Hebe, a number of fine Cypripediums, among which C. insigne Sanderæ and C. i. Sanderianum were conspicuous, Lælia × Novelty, L. × Omen (autumnalis ♀ × purpurata ♂), and L. × Digbyano-purpurata (purpurata ♀ × Digbyana ♂), a very interesting hybrid to which an Award of Merit was given. The flower is most like L. purpurata in shape, the sepals and petals blush-white, and the lip, which is not so much fringed as in other Digbyana crosses, purple in front.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, also staged a very pretty group, to which a Silver Banksian Medal was given. It contained the handsome yellow Cypripedium insigne Laura Kimball, with various good forms of C. × Leeanum, C. × Charles Canham, and other hybrids, a fine dark Cymbidium Tracyanum, the pale purple Dendrobium Phalænopsis violaceum, Lælio-cattleya × Aurora, L.-c. × Apollonia, L.-c. × Schilleriana Wolstenholmiæ, &c.

Messrs. F. Sander and Co., St. Albans, staged a small group of good things, including Oncidium Forbesii, O. varicosum, a good series of Cypripedium insigne varieties, of which C. i. giganteum was noteworthy, C. × Leeanum giganteum, C. × L. superbum, C. × Margaret Hye, C. × Albert Hye, C. × Tityus, C. × calloso-hirsutissimum, C. × nitens superbum, &c.

Mr. H. A. Burberry, King's Heath, Birmingham, showed a fine form of Lælia anceps with dark lip, called L. a. Burberryana.

ORCHID PORTRAITS.

ARPOPHYLLUM LAXIFLORUM, Pfitz.—*Die Gartenwelt*, Dec. 18, pp. 138, 139, with fig.

CALADENIA CARNEA, R. Br.—*Bot. Mag.*, t. 7630, fig. B.—VAR. ALBA, *Bot. Mag.*, t. 7630, fig. A.

CATTLEYA TRIANÆ, VAR. VILLEGONTIERIÆ, L. Lind.—*Lindenia*, t. 637.

COCHLIODA NŒTZLIANA, Rolfe, VAR. SUPERBA, L. Lind.—*Lindenia*, t. 640.

CYPRIPEDIUM × ARGO-MORGANIÆ.—*Gard. Mag.*, Nov. 26, p. 766, with fig.

CYPRIPEDIUM × GOWERIANUM, Hort.—*Lindenia*, t. 638.

CYPRIPEDIUM × WILLIAM LLOYD.—*Journ. of Hort.*, Dec. 29, p. 491, fig. 84.

LÆLIA PERRINII VAR. LEUCOPHÆA.—*Journ. of Hort.*, Nov. 24, p. 393, fig. 67.

LÆLIO-CATTLEYA × DOMINIANA LANGLEYENSIS.—*Garden*, Dec. 10, p. 465, with fig.

LYCASTE DEPPEI, Lindl. VAR. PRÆSTANS, L. Lind.—*Lindenia*, t. 639.

MASDEVALLIA CHIMÆRA, Rchb. f.—*Lindenia*, t. 635.

NEOBENTHAMIA GRACILIS, Rolfe.—*Gard. Chron.*, Dec. 17, pp. 430, 431, fig. 124, 125.

ODONTOGLOSSUM CRISPUM, VAR. LE CZAR, L. Lind.—*Lindenia*, t. 634.—VAR. PRINCE OF WALES.—*Gard. Mag.*, Nov. 26, p. 767, with fig.—VAR. RAYON D'OR, L. Lind.—*Lindenia*, t. 633.

ONCIDIUM CRISPUM, Lindl. VAR. GRANDIFLORUM, Hort.—*Lindenia*, t. 636.

PAPHIOPEDILUM MASTERSIANUM, Pfitz.—*Bot. Mag.*, t. 7629.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

E. A. B.—Cattleya × Hardyana. Most of the plants known have turned up quite unexpectedly among importations of C. Dowiana aurea or C. Warscewiczii, like the present one.

A. W. H.—Cattleya Warscewiczii true is not known to have the golden veining of your plant, which is almost certainly a form of C. × Hardyana. We can say definitely when you can send a flower.

Photographs received with thanks.—Right Hon. Joseph Chamberlain, M.P., O.O.W., W.G.G., A.W.H., E.F.C.

ERRATA.

Page 360.—The fractions given after "insigne Chantini" should have been ¼ in each case, the two together making ½, as in P. × Dædalus.

Page 373, line 14, for Tilbury, read Tetbury.

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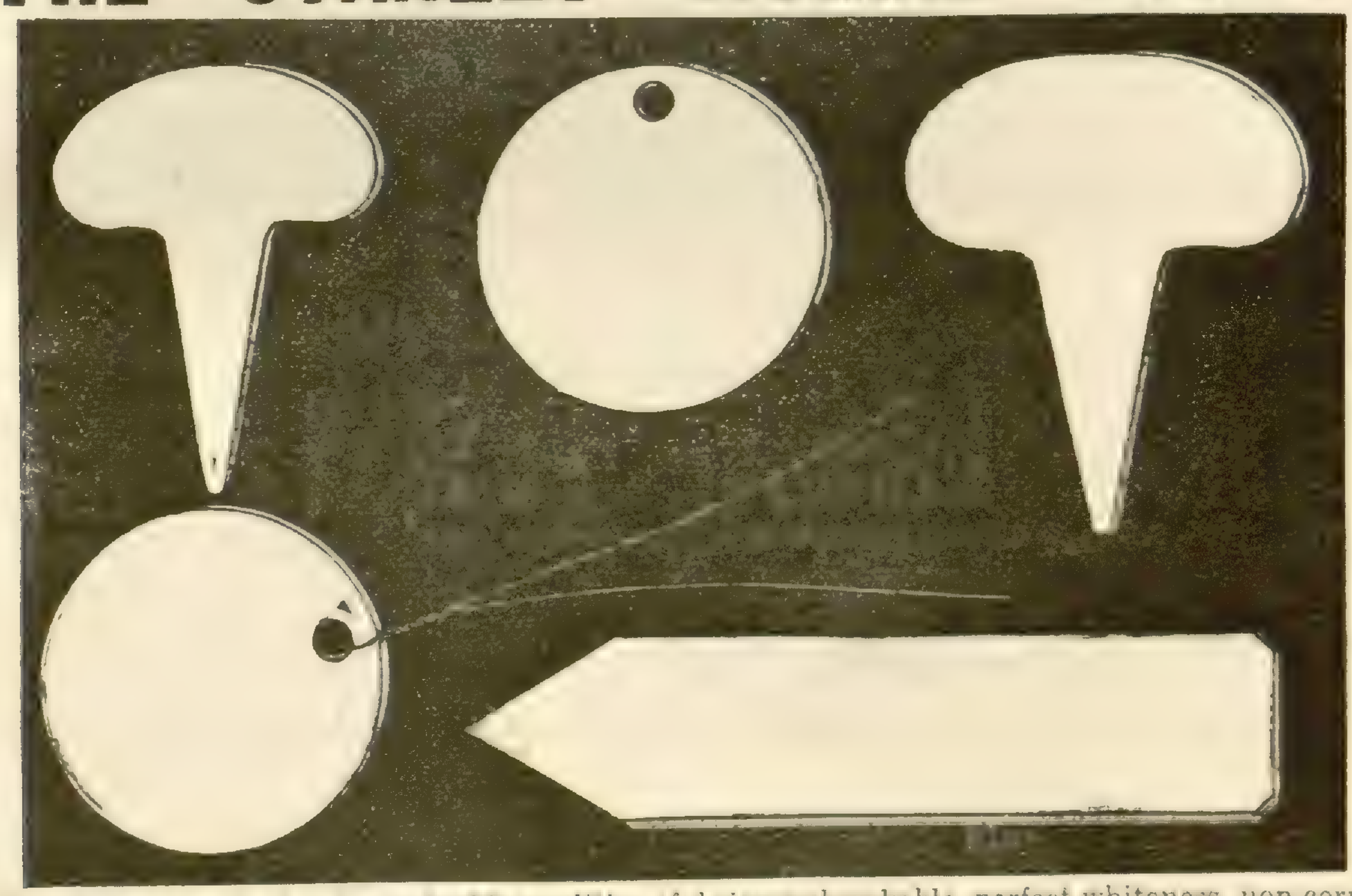

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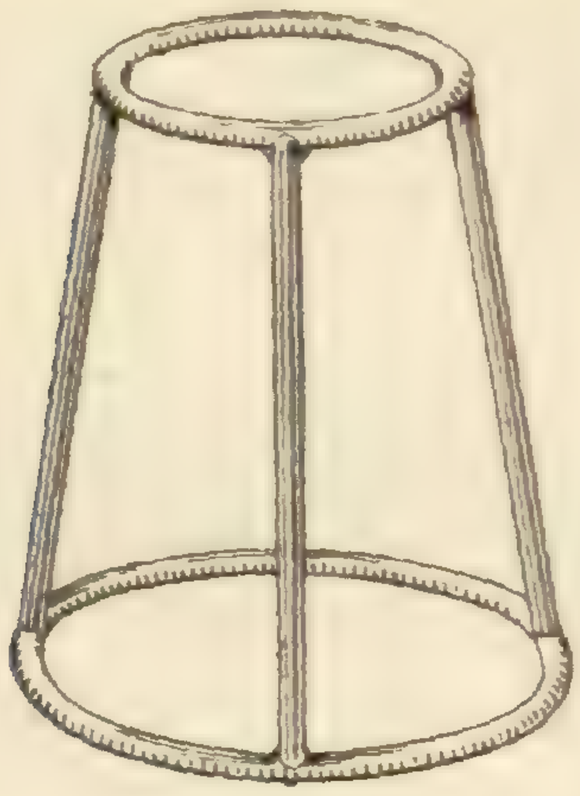

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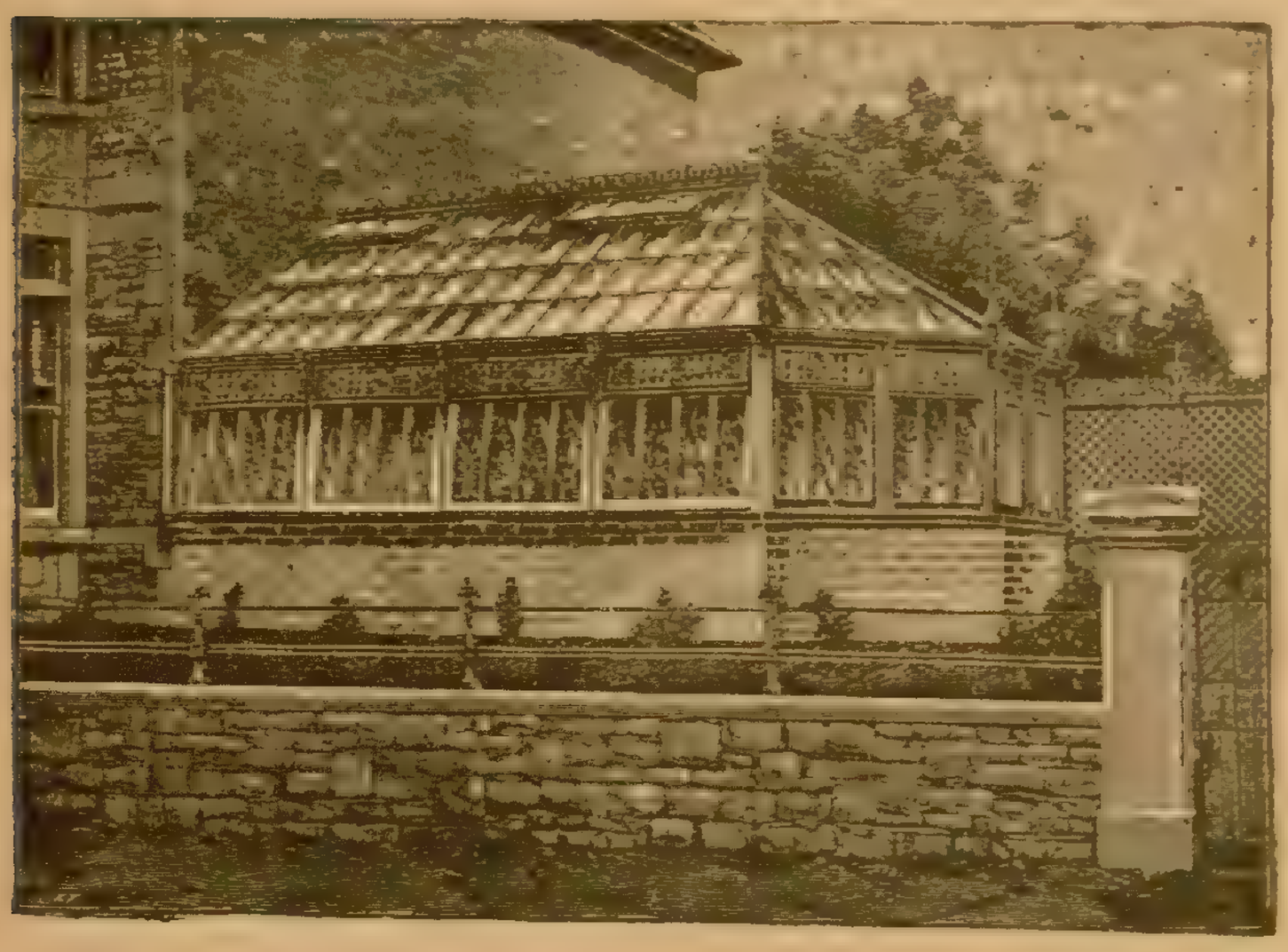

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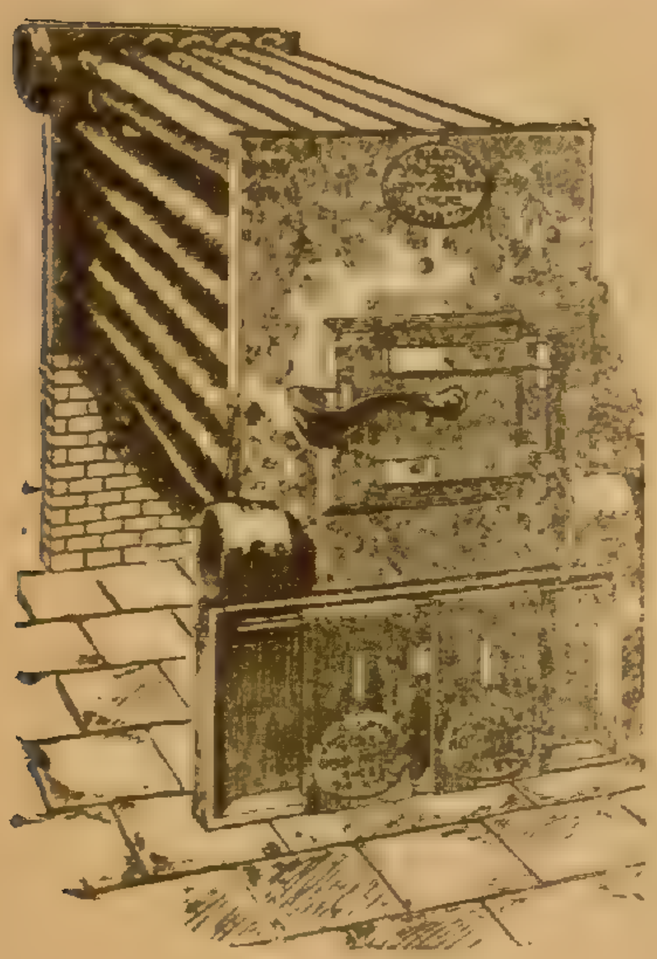

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VOL. VII.] FEBRUARY, 1899. [No. 74.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *FEBRUARY*, 1899. [No. 74.

NOTES.

Two meetings of the Royal Horticultural Society will be held during February, on the 14th and 28th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on February 9th. The Orchid Committee meets at 12 o'clock, and the exhibits are open to inspection from 1 o'clock until 4.

An inflorescence of the handsome Lælia × Gouldiana is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. It is from one of the original plants, and seems quite intermediate between L. autumnalis and L. anceps. The flowers remain fresh for a very long time after being cut, and are remarkably brilliant under artificial light.

A beautiful Odontoglossum called O. crispum Louise is also sent. The segments are much like O. luteopurpureum in shape, but the ground colour is white with a few large claret-purple blotches on the sepals. The lip is similar in colour, but slightly modified in snape, and as the lateral teeth of the crest are longer than usual, and the column wings much fringed, it is probably a form of O. × Wilckeanum with white ground.

A beautiful raceme of Odontoglossum Hallii leucoglossum is sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno. The plant threw up four spikes from two bulbs; two spikes were pinched off, and the others bore 16 and 26 flowers respectively. Some fine flowers of O. luteopurpureum are also enclosed.

A curious flower of Paphiopedilum insigne, with rather long and narrow segments, and the petals distinctly spotted almost to the extreme apex, is sent from the collection of J. F. Alcock, Esq., of Northchurch, Herts. The spots on the petals only differ from those on the dorsal sepal in being rather smaller and more numerous. It must be very near to the variety Youngiæ (*supra*, v, p. 35).

Lælia anceps Protheroeana is a large and brilliantly-coloured variety, of the grandiflora type, of which a flower has been sent from the collection of James Davidson, Esq., of Dumfries. The front lobe of the lip is broad and of an intense crimson-purple, which colour extends round the apex of the side lobes.

Oncidium Forbesii is a very brilliant Orchid at any time, and is especially welcome when it flowers at this time of year, as it very frequently does. A beautiful example is sent from the collection of D. M. Grimsdale, Esq., of Uxbridge. An inflorescence of Odontoglossum gloriosum is also sent.

A fine form of Odontoglossum nobile (Pescatorei) is sent from the collection of Major-Gen. W. A. Gillespie, Brynderwen, Usk, Mon. (gr. Mr. Jennings). The flowers measure over 2¾ inches across their broadest diameter, and are white, except for a tinge of light rose on the sepals and the usual markings on the lip's crest.

A curious flower of Cattleya Trianæ is sent by Messrs. B. Hurst and Son, Burbage Nurseries, Hinckley, in which the two petals are absent, and the dorsal sepal pulled out of place and united, almost to its apex, to one of the lateral ones. There is, however, an additional perfect anther, containing pollen, and this is situated at the apex of a narrow ridge of tissue, which is united to the side of the column, and can be traced back to exactly the position of one of the petals, which suggests that a petal became entangled with the column, and developed with it, thus becoming modified in character. A good form of Odontoglossum Lindleyanum and a fine flower of Paphiopedilum × Leeanum are also enclosed.

A fine form of Paphiopedilum × Lathamianum is sent by Messrs. Cappe et fils, of Vesinet, France. It is from a new batch of seedlings, of which numerous examples are showing for flower, and as the form of P. villosum used as the seed parent was a particularly fine one, some excellent forms of the hybrid are expected.

P. × œno-Spicerianum has also been raised in this establishment, P. Spicerianum being used as the seed parent. The first flower appeared in November, 1897. A flower now sent approaches P. × Leeanum in general character, but is rather brighter in colour.

At the invitation of the Council of the Royal Horticultural Society, Mr. R. A. Rolfe will read a paper at the Hybridisation Conference, entitled "Hybridisation viewed from the standpoint of systematic botany," and he would be obliged for records of the results of any experiments undertaken with the view of proving the origin of supposed natural hybrids, both among Orchids and other plants. Several are already on record, but seedlings of other crosses are in existence, and these he would be glad to hear of, whether they have flowered or not.

Instances of Paphiopedilums with twin-flowered scapes are common, but the occurrence of three flowers in the normally one-flowered group is very rare. A photograph of a plant of P. × Rossianum (barbatum × tonsum), in the collection of H. J. Ross, Esq., of Florence, shows a plant in this condition, and testifies to the vigour of the plant. We have once seen P. Spicerianum with a three-flowered scape.

A photograph of a magnificent plant of Lælia albida has been sent from the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, by Mr. Smith. It is much the finest example of this species which we have seen, and carries thirty-two spikes, with an aggregate of 139 flowers, forming quite a picture.

Eight classes are devoted to Orchids at the Exhibition of Chrysanthemums and other plants, to be held by the Société Royale d'Agriculture et de Botanique de Gand, on November 12th to 14th next. They are for the best group, 12 Cattleya labiata, 12 Cypripediums, 6 distinct Odontoglossums, the best Orchid in flower, the best Vanda, the best Cypripedium, and a similar class to the latter, limited to plants raised from seed by the exhibitor. Gold and other medals are offered as prizes.

Lælia anceps alba, a true albino, and the old L. a. Dawsoni are sent from the collection of W. Thompson, Esq., by Mr. Stevens, together with L. a. Hilliana and the fine L. a. Schrœderiana, all of which are very beautiful. There is also a very fine seedling Dendrobium from D. n. nobilius × D. × splendidissimum grandiflorum.

Much sympathy will be felt with Mr. Stevens in the loss he has sustained in the death of his eldest son on January 18th. The deceased had attained the age of thirty, and for some years had acted as his father's assistant. He was a promising Orchid grower and has raised many seedlings, some of which will probably he heard of hereafter. He will long be remembered by a plant belonging to another group, namely, Eucharis × Stevensii, which was raised by him, and flowered for the first time in 1885. The cross was made when young Stevens was about 14 years old.

DIES ORCHIDIANÆ.

THE appearance last month of the beautiful group of winter-flowering Paphiopedilums—I had better use the right name—reminds me of the plate of Eulophiella Peetersiana given as a frontispiece to the last volume, in fact I have been comparing them together, with results not altogether flattering to the latter. It is accurate enough, for I had the good fortune to see the plant when alive, but there is a want of sharpness about some of the details, which is sufficiently explained by the fact that the photograph was made from a painting and not from the plant itself. It is, nevertheless, a valuable record of one of the most striking introductions of recent years. One cannot help wondering how so remarkable a plant should have escaped detection before, even in Madagascar, parts of which have been so well explored during recent years.

To return, however, to the photographs, and especially to the one reproduced at page 17, which I note is hardly one-third natural size, and yet shows the details better than in many larger ones. It suggests the question whether it is necessary that such large flowers should be reproduced full size, as is often done, for when the amount of reduction is known, or when some well known variety is included in the group, one can find the natural size if necessary. I was discussing with a friend the other day the question of photographs versus drawings, and why so many of the latter are so unsatisfactory, and the conclusion we arrived at was this:—Many drawings are hurried sketches, with much of the detail left out, and what is put in not always where it ought to be—*vide* my remarks on Odontoglossum crispum Prince of Wales at page 227 of the last volume. Further than this there is what may be termed the individuality of the artist to be taken into consideration, and this counts for something. Not long ago a striking hybrid was exhibited at a meeting of the R.H.S., and was illustrated in three or four different papers, all from the same flower, though the amount of difference between the figures was striking. It was this that led to the discussion, and the opinion we arrived at was much in favour of photography as a means of securing a reliable record.

The question of colour was, of course, excluded, but the other day I dropped across the note of an Orchid collector respecting the re-discovery of a rare and handsome Dendrobium which was a desideratum in cultivation. The collector was making his way up a river in a boat, and had shown a coloured plate to various natives, none of whom knew the plant. Having gone as far as was safe, the collector found the headman of a village who, though he recognised various plates shown to him, had not

seen the plant specially desired. The collector was naturally disappointed and reluctant to return without the plant, when the headman enquired whether the plate was correct, and whether the colour was not a different shade to that represented. This the collector admitted as possible, after which the headman grasped the situation, and said that the plant grew not far from the stream along which the collector had travelled. I was rather curious to know the name of the species, which, however. was not stated. At all events the collector got his plants, but I could find a good many plates in the condition of the one under discussion.

Five years ago, the beautiful Paphiopedilum Charlesworthii suddenly appeared, when it was remarked: "To the hybridist it should prove a great acquisition, for it presents a colour which has been much sought after, and its handsome dorsal sepal is sure to originate some striking developments, when crossed with other richly-coloured forms." How far this may prove true perhaps remains to be proved, but it was at once taken in hand, and many seedlings have been raised, the first of which has now reached the flowering stage. It is a cross with P. barbatum, which was the seed parent, and was raised in the collection of W. H. Lumsden, Esq., of Aberdeen. The merits of the hybrid can scarcely be judged from the first flower, but it is bright and attractive in colour, which is one of the great desiderata in this group, and, whatever its value, it will always be historically interesting. Now that one seedling has flowered others may be anticipated, and their appearance will be awaited with interest.

I have not escaped without further communications on the "great Cypripedium question." My old friend of last month is glad to find that his arguments were not demolished one by one, and thinks that if they can be shown to be correct they will in time be adopted, though a little inconvenience may be felt at first. He also hopes that amateurs who are so convinced on this point will set the fashion. The case as he puts it is something like this. The slipper Orchids, which were long known under the old Linnean name of Cypripedium, are now shown to belong to four different genera, and the change in nomenclature rendered necessary by this discovery is complicated by the fact that the name "Cypripedium" is not the correct eqnivalent of "Venus' Slipper Orchid," as Linnæus intended, but 'Cypripedilum." Opponents of this amended spelling have suggested the derivation as from "Venus' foot Orchid," hence "Cypripodium" would be more correct, but this argument has been disproved from the remarks of Linnæus himself.

"Cypripedilum," therefore, is the name to be adopted for the hardy

deciduous species, as C. Calceolus, Regina, japonicum, and in fact all the species from the temperate regions of the northern hemisphere, from Japan round to Mexico. All the evergreen tropical species of the Old World belong to "Paphiopedilum," and differ in habit, and in having a deciduous perianth, and the sepals imbricate, not valvate, as may always be seen in the opening bud. These two genera have a one-celled ovary, but in the Tropical American species it is three-celled, but these are also divisible into two genera. "Selenipedilum" contains three species of tall, reed-like plants, with leaves like Cypripedilum, small persistent flowers, and round, smooth seeds with a crustaceous testa, like Vanilla, and singularly enough two of them have Vanilla-scented fruits. This genus is not in cultivation. The rest of the species, as caudatum, Schlimii, longifolium, &c., belong to "Phragmipedilum," and are stemless, with long coriaceous leaves, large flowers, with deciduous perianth, and fusiform seeds with the usual reticulated testa. In fact the four genera are more distinct than many which are universally recognised, though the differences have only recently been correctly understood.

This is all lucid enough, and I will pay my correspondent the compliment of saying that I think it is worthy of adoption. Another letter must stand over for the present.

ARGUS.

ORCHIDS OF 1898.

As several important hybrids were overlooked in our article on this subject at page 7, we offer the following supplementary notes.

Lælio-cattleya × Henry Greenwood is a striking secondary hybrid, between L.-c. × Schilleriana and Cattleya × Hardyana, with which M. Ch. Maron secured the prize for the best new hybrid at Ghent. Cypripedium × I'Ansoni, × Mrs. Reginald Young, and × Olivia, are striking novelties from Messrs. Hugh Low & Co., the two former receiving First-class Certificates on the same day. Phalænopsis × Schrœderæ also came from the same firm. Odontoglossum × Adrianæ is a charming little natural hybrid between O. Hunnewellianum and O. crispum, which has flowered in several collections from Messrs. Linden's importations, and this firm exhibited several plants at the Temple Show, O. × A. venustum gaining a First-class Certificate. Lælia × Ragotiana, from the collection of M. J. Ragot, Villenoy, France, originated from L. grandis and L. cinnabarina. Cattleya × Adela (Trianæ ♀ × Percivaliana ♂) was raised by Messrs. James Veitch & Sons, also Lælia × Digbyano-purpurata,

not yet seen at its best. Sophrocattleya × Cleopatra, Lælia × cinnabrosa, Lælio-cattleya × radiata, and L.-c. × Admiral Dewey, are interesting novelties from Messrs. Charlesworth & Co., the latter obtaining a First-class Certificate at the Temple Show. L.-c. × Duke of York is a striking hybrid from Messrs. F. Sander & Co., which has also gained the same award. It is interesting to note that Messrs. Sander have succeeded in getting home from New Guinea an importation of the remarkable Dendrobium spectabile, of which only a single plant, in the collection of Sir Trevor Lawrence, was previously known in cultivation. Lælio-cattleya × La France is an interesting hybrid raised by Mr. G. Mantin from L. tenebrosa and C. bicolor. Brassocattleya × bellaerensis, derived from Brassavola Perrinii and Cattleya guttata, and Epicattleya × bellaerensis, from Cattleya × Forbesii ♀ and Epidendrum cochleatum ♂, are two remarkable generic crosses from this collection.

Several hybrids have received certificates within the year, which were previously recorded, and these we have omitted. Also several reputed novelties which are at most only varieties of previously-named hybrids.

ORCHIDS IN SEASON.

THE two Orchids perhaps most in evidence at the present time are Cattleya Trianæ and Lælia anceps, both of which are represented in collections by a series of striking varieties, and, where they succeed well, make a brilliant display. Cattleya Percivaliana is also in season, and though smaller and less variable than some others is particularly rich in colour in the best varieties. Lycaste Skinneri is flowering well, and will continue flowering for weeks to come. The chaste variety alba is probably the greatest favourite, but many of the coloured forms are very showy, and repay the grower for any special attention bestowed on them. Zygopetalum intermedium and Oncidium unguiculatum still make a fine display, being apparently almost as good as they were a month ago.

The beautiful Cœlogyne cristata has again put in an appearance for the season, and will not be lost sight of for several weeks. Few Orchids are more deservedly popular than this, as it is largely grown for cut flowers in many establishments where only a few of the most useful of these plants are admitted; and it gives little more trouble than an ordinary stove plant. The varieties alba and Lemoniana are the most distinct, and contrast effectively with the typical form.

Dendrobiums are now making a brilliant display. The season commenced some time ago with D. moniliforme and the hybrids partly derived from it, which include D. × endocharis, × euosmum, × Cassiope, and one or two other less common forms, all of which are very beautiful. D. nobile

aud its hybrids are now beginning, and many of these are large and brilliantly coloured. D. × Ainsworthii and its numerous forms and allies, in whose origin D. aureum has played a part, now form quite a large group, and for vigour, floriferousness, and beauty of colouring, leave little to be desired. D. Wardianum is also flowering freely. Others are following on, and will keep the house gay for some time to come. Angræcum sesquipedale and the graceful Platyclinis glumacea are also too effective just now to be passed over.

The Cool house is gradually improving as the Odontoglossums again come into flower, among the less common ones being the violet O. Edwardii, O. pulchellum, and O. tripudians. O. × Andersonianum and its numerous varieties are beginning to flower, and the more familiar species are brightened up by Masdevallia ignea and the brilliant Sophronitis grandiflora.

Among the most effective of the Paphiopedilums just now may be mentioned × Lathamianum, × Calypso, × Harrisianum, callosum, venustum, villosum, Boxallii, × Williamsii, Argus, callosum, purpuratum, × nitens and its varieties, and many others, in fact more than we have space to enumerate.

HYBRIDISING PAPHIOPEDILUMS.

Is this injurious to the seed-bearing plant? I read in a most interesting article which appeared in the March number of the *Orchid Review* for 1898 (p. 69), that a discussion took place so long ago as 1882 in which this very question was introduced. After an experience of about seven years, I have come to the conclusion that the operation, when confined to strong, well-developed plants, is not materially injurious, and that no perceptible deterioration takes place. On the other hand, I am afraid that injury, sometimes ending in death, is often the result of hybridising young plants of only one or two growths.

In my own collection, Paphiopedilum × Harrisianum superbum (Veitch's variety) is an instance of the former class, for from 1893 to the present date, scarcely a flower has escaped the operation, and the plant appears as healthy and vigorous as ever, having largely increased in number of growths. As instances of the latter class, I may mention the species P. ciliolare, and P. Volonteanum, and the hybrids P. × orphanum, P. × T. B. Haywood, P. × Georg Kittel, and P. × Orpheus var. Youngianum. In all these cases the growths have been few, and the result of hybridising them has been a severe check, and in some instances death.

It is a curious fact that the seed pod of P. Volonteanum takes longer to ripen than many others, and is therefore a greater drain on the plant. I quote from my hybridising record:—P. Volonteanum ♀ × P. bellatulum ♂;

P. bellatulum ♀ × P. Volonteanum ♂; both crosses made on the same day, 16th June, 1897. The former pod was not ripe until the 13th July, 1898, whereas the latter, although standing in a cooler house, was ripe on the 25th February, 1898.

Other instances in both classes could be readily given, but suffice it to say, the preponderating evidence is, that hybridising does weaken, to a greater or lesser extent, the seed-bearing plant. If, then, such is the case, it is not surprising that owners of such valuable plants as P. Stonei platytænium, P. Fairrieanum, and others, should be chary of subjecting them to such risk. This, however, would hardly apply to Paphiopedilums of more moderate value.

REGINALD YOUNG.

VANILLA CULTURE.

A PAPER on "Vanilla Culture as practised in the Seychelles Islands," by S. J. Galbraith, has been issued as a Bulletin of the U.S. Department of Agriculture. Mr. Galbraith, it appears, was for many years a successful planter in the Seychelles, where Vanilla culture is a very important industry, and the recent annexation of the Hawaiian Islands, Puerto Rico, and other tropical territory has added to the United States regions which, there is reason to believe, will prove admirably suited to the cultivation of this plant.

Vanilla cuttings are said to have been first introduced into the Seychelles in 1866, probably from Bourbon, where the plant was grown extensively after sugar began to fail, about 1850, and the plantations have gradually extended, and for many years the colony's prosperity has largely depended on Vanilla. It succeeds well from near sea-level up to 1,800 feet altitude, either in rich vegetable mould, greasy red clay, or coarse quartz sand or gravel, the latter being the best. Formerly, plantations were made with the rows of vines so close together as scarcely to leave room for workers to pass between, and the yield per acre was enormous, until the Vanilla disease appeared, but when a vanillery thus arranged was attacked, the destruction was rapid and complete. Now the rows are placed further apart. Small trees are used as supports for the vines, which are festooned from fork to fork, but many planters have made use of posts and horizontal bars, or wires, over which the vines are hung in loops a few feet from the ground. Another method coming more generally into practice is to plant each vine on a tree of its own. A great variety of trees will serve, but those of moderate leafage (about half shade), and plenty of forks, from five to seven feet from the ground, on which to train the vines, are best. In starting

a vanillery, the first thing is to thin the trees to the proper distance, after which the cuttings are planted, and, if they do well, may be prepared for cropping in about eighteen months, more or less, according to the season. This is accomplished by stopping the shoots twice. Shoots are then produced which hang down some four to six feet, and this process conduces to flowering. Flowers take some six weeks to develop after they begin to push. A top dressing of leaf mould should be applied to the roots when the flowers begin to open, or a little before.

The flowers have to be fertilised by hand, on the day they open, and this is mostly done by women and children, who are paid seven cents a day for the work. The operation consists of removing the flap-like rostellum and pressing the pollen on to the stigma, a small piece of hard wood of the size of a toothpick, flattened at one end, being used for the purpose. The work is rapidly performed, and, with flowers fairly numerous, an ordinary hand will pollinate a hundred or so per hour. Early morning, from 7 to 9, is the best time, but the work may be started with sunrise and carried on well into the afternoon, though, about mid-day, the flowers begin to close and the work goes slower. Most plants produce more flowers than it is desirable to fertilise, and the number of pods must be estimated according to the plant's size and condition. The number of clusters of flowers will depend upon the size and condition of the plant, and, generally speaking, five or six out of a cluster of ten flowers may be fertilised. About thirty pods to a vine is as many as should be left, and he would be a lucky planter who would average that number. If the flower is fertilised, it slowly withers up, but, in case of failure, it falls off in two or three days, and when enough in a cluster are set, the remaining buds are broken off. Pods grow to their full size in five or six weeks, but take some eight months to ripen, which is indicated by a slight yellowing of the whole pod. They must be gathered carefully, and, in order to guard against splitting and yet gather them at perfect ripeness, they are gone over every other day. After each day's gathering, it is well to sort the pods roughly into four classes: long, medium, short, and split.

Now comes the process of curing for market. Several methods are employed, but the one described is considered as simple and successful as any. About 400 of the longest pods are placed in a basket and plunged into hot water (about 190°F.) for ten seconds, and this is repeated twice, with intervals of half-a-minute, the second and third dips being increased to twelve and fifteen seconds respectively. After this, when most of the water has drained off, the pods are placed in a wooden box or barrel lined with blankets, and closely covered up with the same material. The remaining lots are now treated with the water a trifle cooler, or the dipping a trifle shortened. The exact temperature of the water may vary

a few degrees, and, where small quantities are dealt with, less heat is needed. An experienced preparer will be guided more by the appearance of the pod after each dip than by any fixed formula. It is best to have good-sized boxes or barrels to sweat the pods in, those holding two or three thousand each being preferable, as the heat is retained better. The four qualities should also be kept apart, a fold of flannel being laid on each if all go into the same box. By the following morning, they should have changed to chocolate or puce colour, and are then ready to spread on the drying shelves, but if the number is large and the heat well kept in, they may be left for another day.

A curing house is used for preparing the crop for market, and this is divided into four compartments, two below and two above, one of the lower ones being heated with a flue to 110° F. These compartments are fitted with tiers of lath shelves, about six inches apart, on which mats or canvas are laid, to dry the fruit on. As they begin to turn soft, the pods are removed from the hot chamber to the one above, which is cooler, and, after attaining a certain degree of flexibility, they are moved into the adjoining upper room to finish. In the cooler rooms, the pods are sorted as they progress in curing, being spread on fibre mats, and the worker, sitting on the floor, keeps the four qualities distinct, which facilitates the work, as the short and split pods dry more rapidly. When finished, the pods are wiped with soft flannel, tied in bundles, and kept in boxes with close-fitting lids, and examined once or twice weekly in order to remove any mouldy ones. After four or five months, any pods liable to mould will have shown themselves, and they are then measured and tied up in neat bundles of fifty each for market. The tin boxes used for packing vanilla measure 12½ by 8½ inches, and 4½ inches deep, and hold about twelve pounds, and each box has a label pasted on it which bears the grower's trade mark, the length and number of packets, their quality and net weight. The lids are then sealed close with pasted paper, packed in wooden cases, six in each, and dispatched to market.

A plate is given, showing photographs of the Vanilla in flower and in fruit; together with figures showing the method of fertilisation, and a plan of the curing house. There are also some miscellaneous notes, showing cost of labour, prospect of profitable returns, and other interesting details, and, as the present price of vanilla in London is about twenty-five shillings a pound, the crop should be a profitable one where conditions are favourable. The Vanilla disease, and wet weather when the plants are in flower, seem to be the worst enemies the cultivator has to dread, and the former, it is suggested, should be kept out of the U.S. territories by admitting only plants which are absolutely free from disease.

THE HYBRIDISATION CONFERENCE.

FURTHER particulars of the International Conference on Hybridisation and Cross-breeding are given in the Royal Horticultural Society's arrangements for 1899. The first day's meeting will be held at the Society's Gardens at Chiswick, on Tuesday, July 11th. All plant-growers, whether amateurs or nurserymen, are particularly requested to exhibit hybrid or cross-bred plants (whether in bloom or not), with their parents, and a written account of their origin, also graft hybrids, at this meeting. All plants should arrive at the Gardens at or before 11.30 a.m., and may be removed at 5 p.m. Other plants specially submitted for certificates may also be staged, but no groups or miscellaneous exhibits will be admitted. The Orchid and other Committees will meet at 12 o'clock, noon. At 12.45 the President, Sir Trevor Lawrence, Bart., will receive the invited members of the Conference, who will afterwards be entertained at luncheon. At 2.15 the Conference will commence, with some introductory observations by the chairman, Dr. Maxwell T. Masters, F.R.S., after which the following four papers will be read:—"Hybridisation and Cross-breeding as a Method of Scientific Investigation," by W. Bateson, Esq., M.A., F.R.S., Cambridge; "Hybridisation—its successes and failures," by the Rev. Prof. Henslow, M.A., V.M.H., London; "The Stability of Hybrids," by Prof. Hugo de Fries, Amsterdam; and "Progress of Hybridisation in the United States," by Prof. L. H. Bailey, of Cornell University. At 5 p.m. the Conference will adjourn, and at 6, for 6.30 p.m., the foreign members of the Conference will be entertained at dinner on the kind invitation of the Horticultural Club, under the presidency of Sir John T. D. Llewelyn, Bart., M.P., at the Hotel Windsor, Victoria Street.

On Wednesday, July 12th, the Conference will be continued at 117, Victoria Street, S.W., at 2.15 p.m., and, after some introductory observations by Dr. W. P. Focke, of Bremen, the Chairman of the day, papers on various subjects will be read, including one on Hybrid and Cross-bred Orchids, by Norman C. Cookson, Esq., F.R.H.S. The Conference will adjourn at 5 p.m., after which the Society's distinguished foreign guests will be entertained at a banquet at the Whitehall Rooms of the Hotel Metropole, at 6.30 for 7 p.m., under the Chairmanship of Sir Trevor Lawrence, Bart.

All persons interested in Hybridisation, or in cross-breeding, are requested to assist by every means in their power, and are invited to send written information in the form of short notes for publication in the Report of the Conference, or otherwise. All interested are invited, but special invitation has been sent to many well-known Hybridists and Botanists, whose names, to the number of one hundred, are appended to the programme.

In order that accurate results may be arrived at, and to facilitate comparisons and deductions, cards will be supplied on application, for each exhibit. Exhibitors are particularly requested to apply for these cards, and to fill them up accurately and legibly beforehand, as the utility of the Conference will largely depend upon this being carried out.

This programme may, of course, be somewhat modified according to circumstances, but the meeting promises to be the most important event in the Society's year. The papers already announced promise to be of unusual interest, and hybrids now occupy such a prominent position in gardens that a considerable Exhibition may be anticipated.

CULTURE OF EPIDENDRUMS.

A CORRESPONDENT writes asking that we will describe briefly in the pages of the *Review* the treatment for Epidendrum osmanthum (Godseffianum), Hanburyi, radicans, and allied species, and this we have much pleasure in doing, for these plants are deserving of more attention than they sometimes receive. The two former belong to the pseudobulbous section of the genus, the one being Brazilian, introduced with Cattleya labiata, the other Mexican. Like E. atropurpureum they may be grown in the Cattleya or Mexican house, on blocks or in pots, the latter being preferable. The pots should be well drained, and the compost should consist of fibrous peat and sphagnum, pressed firmly about the plant. They like plenty of water when growing and if on blocks should during warm weather be moistened daily with the syringe, and even when at rest should not be allowed to become dry. They require plenty of light, and succeed best suspended from the roof, and only shaded during hot bright sunshine. Care should be taken in potting to disturb them as little as possible, and not to damage the roots, for they appear not to like the process. As in the case of Cattleyas, efforts should be made to induce good growths, and then to mature them properly, which will stimulate them to bloom at the proper season. E. radicans has long reed-like stems, several feet high, and rooting all the way up. It should therefore be placed in a pot of moderate size, and may be trained on a trellis or on the roof of the house. In other respects it agrees with the preceding as to treatment. Having no pseudobulbs it is important that the plant should not be allowed to become dry, or the leaves will shrivel and drop off before their time. When well grown it flowers almost continually. Most of the Epidendrums may be successfully grown with Cattleyas.

THE HYBRIDIST.

ZYGOBATEMANNIA × MASTERSII.

ANOTHER very interesting generic hybrid has now to be recorded. It is the result of crossing Zygopetalum crinitum with the pollen of Batemannia Colleyi, and bears unmistakable evidence of its origin. It was raised by Messrs. Linden, L'Horticulture Internationale, Brussels, the seed having been sown in April, 1893, and Messrs. Linden now send a sketch of the plant, together with the four-flowered raceme. It is a fine strong plant, apparently of very vigorous habit, with large ovoid-oblong diphyllous pseudobulbs about 3 inches long, and elliptical-lanceolate recurved leaves about 9 or 10 inches long by 2 inches broad. The scape arches over, and thus is most like the Batemannia, the flowering portion sent being 6 inches long, while the sketch shows about 2 inches more attached to the plant. The bracts are ¾ inch long and sheathing, much like the Batemannia, and the flowers also most resemble that parent, though much modified in detail. The sepals and petals are subconnivent, blackish-brown, and the lip light whitish yellow, closely lined with red-purple on the crest, which is much like that of the seed parent in its smaller size. The dorsal sepal and petals are an inch long, and the lateral sepals 1¼ inches, and inserted on the foot of the column somewhat as in the pollen parent. The lip has small rounded side lobes, and the front lobe is broadly oblong and recurved. The column is closely striped with purple brown, and most resembles the Zygopetalum parent, while the pollinarium is intermediate in character. The colour is distinct, but cannot be called beautiful, though the hybrid is certainly a remarkable one, and Messrs. Linden must be congratulated on their success.

LÆLIO-CATTLEYA × CAPPEI.

This is a very pretty hybrid, raised in the establishment of Messrs. Cappe et fils, of Vesinet, Seine-et-Oise, from Lælia cinnabarina ♀ and Cattleya Warscewiczii ♂. The seed was sown in April, 1895, and the first flowers expanded in December last, when the plant was under four years old. The plant is most like the seed parent in general character, the longest bulb being 5 inches long, surmounted by a leaf 10 inches long, but most like the pollen parent in colour. The first spike produced four flowers, the sepals and petals being over 2 inches long and clear light yellow in colour, while the lip is trilobed, much crisped, and with the front lobe and tips of the side lobes of a pretty light rosy purple shade, the remainder, including the throat, being yellow. It has obviously not yet reached its full development, in fact it promises to be one of the best of the Lælia cinnabarina hybrids. Like most of the hybrids from the latter, it has a good constitution, each bulb showing a marked advance on its predecessor, and we shall hope to hear of it again at its next time of flowering.

Paphiopedilum × Madiotianum.

A distinct and striking hybrid raised in the same establishment as the preceding, from Paphiopedilum villosum ♀ and P. Chamberlainianum ♂, whose characters it combines in a very effective way. It is of strong and robust habit, and the scape has the racemose character of the pollen parent, the first scape bearing four flowers, two of which were open together. The dorsal sepal is 2 inches long, and much resembles that of P. Chamberlainianum in shape, the basal third being shining brown, with about eleven similar nerves running up into the green area above. The petals are 2½ inches long, and most like P. villosum in shape and colour, but the brown veining is more distinctly reticulated, and the margins much undulate and ciliate. The lip is 2 inches long, with the elongated shape of P. villosum, and the colour uniform light brown; and the staminode is broadly elliptical, convex, 5 lines long, and covered with short erect brown hairs. The colours of the two parents do not neutralise each other in the hybrid, as is sometimes the case, and it is a decided acquisition to the group. Messrs. Cappe wish it be dedicated to M. Madiot, of Fougères, Ille-et-Vilaine, France, a great lover of Orchids.

Paphiopedilum × Endymion.

This is a distinct and interesting hybrid raised in the collection of Reginald Young, Esq., of Liverpool, whose history is given by Mr. Young in the following note:—

"On the 20th March, 1893, my gardener, Mr. Thos. J. Poyntz, crossed a bloom of P. barbatum grandiflorum with the pollen of P. Mastersianum. In due time the pod ripened, and the seed was sown on the 27th November, 1893, on a pot of P. × Ashburtonæ superbum. Time passed and no seedlings made their appearance, and as the Ashburtonæ required re-potting, this was done in October, 1895. On the 17th August, 1895, three seedlings had been discovered on an adjoining pot, one of which subsequently died. No suspicion was entertained at the time as to their origin, but now that one is in flower, there can be no doubt that they originated from the above cross. A few seeds must have dropped or been wafted on to the pot on which they were found. Both parents are distinctly represented in this new hybrid, in sepal, petals, pouch, and staminode." With the final remark we fully agree, for no one who knows these two species well could fail to trace their characters in the hybrid. As compared with P. Mastersianum, the dorsal sepal is enlarged, and bears about seventeen stripes, which are purple towards the margin. The petals are nearly but not quite horizontal, 2½ inches long, suffused with purple towards the apex, and with the warts and spots larger and more distinct than in P. Mastersianum. The lip approaches the last named in shape and P. barbatum in colour, while the staminode is almost that of the latter. It is a very interesting addition to the group.

PAPHIOPEDILUM × CALLOSO-BARBATUM.

This is a hybrid raised in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, from P. callosum ♀ and P. barbatum Warneri ♂. The two are so nearly allied that a hybrid between them cannot be very distinct, but it is good, and will probably prove to be very vigorous and floriferous. It may be described as a somewhat enlarged well coloured barbatum with the petals somewhat falcate. Being the first time of flowering it has probably not yet attained its full development. Messrs. Charlesworth & Co. exhibited a plant under this name last November.

PAPHIOPEDILUM × ZENO.

Raised in the same collection as the preceding from P. tonsum ♀ and P. Boxallii ♂, whose characters it combines. The dorsal sepal is reflexed, nerved with blackish purple, and slightly spotted at the sides. The petals are quite devoid of ciliæ, and bear a number of small blackish spots on the lower half. The characters of the two species, however, have neutralised each other too much to be very effective.

PAPHIOPEDILUM × IAGO.

A hybrid between P. Dayanum ♀ and P. villosum ♂, raised in the same collection as the preceding. It is a large and bold flower but rather pale in colour, being about intermediate between the parents in this respect. The dorsal sepal is closely nerved and almost suffused with dark purple brown below, and reticulated with the same colour above, while the petals are suffused with pale purple and bear rather long ciliæ, and the lip still lighter in colour.

PAPHIOPEDILUM × BARBATO-CHARLESWORTHII.

In the autumn of 1893, Paphiopedilum Charlesworthii flowered for the first time in Europe, and now a hybrid from it has flowered, and has been described under the name of Cypripedium × barbato-Charlesworthii (O'Brien, in *Gard. Chron.*, Jan. 7, p. 3). It is one of a small batch raised in the collection of W. H. Lumsden, Esq., Balmedie, Aberdeen, N.B., from P. barbatum Warnerianum ♀ and P. Charlesworthii ♂, and presents the usual intermediate characters, though it is most like the pollen parent in the flower. The leaves are said to be variegated, as in the seed parent, though like the pollen parent in other respects. The dorsal sepal is slightly concave, bright rosy purple on the lower half, with indistinct green lines, the rest being white, reticulated with rose purple, which grows lighter towards the apex. The petals are more horizontal than in P. Charlesworthii, veined and tinged with dull rose on a light ground. The lip is greenish white, with darker veining, and a brownish purple tinge in front; and the staminode pale lilac, with a greenish yellow keel in the centre. It is a brightly coloured and promising hybrid.

ODONTOGLOSSUM CHIRIQUENSE.

THE annexed figure represents the fine specimen of Odontoglossum chiriquense, Rchb. f., which was exhibited by W. G. Groves, Esq., Holehird, Windermere, at a meeting of the Royal Horticultural Society on July 12th last, under the name of O. coronarium, and to which a Silver Flora Medal was awarded in recognition of its excellent culture. A comparison shews that it is not the typical O. coronarium, Lindl., but what has been

FIG. 8. ODONTOGLOSSUM CHIRIQUENSE.

called var. chiriquense, Veitch (*Man. Orch.*, i, p. 23), and in reality a distinct though allied species, O. chiriquense, Rchb. f. (in *Bot. Zeit.*, 1852, p. 692). It was originally discovered by Warscewicz on the Cordillera of Chiriqui, at 8000 to 9000 feet elevation, and is said to have been first introduced to cultivation some thirty or more years later by Messrs. F. Sander and Co., of

St. Albans. It was also introduced direct by M. Vuylsteke, of Loochristi, who flowered and exhibited it at Paris in 1889, after which it passed into the collection of M. Jules Hye, of Ghent. The late Richard Pfau speaks of its habitat in Costa Rica as very restricted (*Orch. Rev.*, ii, p. 296). It is readily distinguished from O. coronarium by its far larger flowers, with very undulate sepals and petals. The flowers on a strong plant measure over three inches in diameter, and are red-brown in colour with the exception of the lip, which is yellow. Mr. Groves' plant is on a raft about 3ft. long by 2½ft. broad, the raft being covered with living sphagnum moss, which is kept constantly moist. Ordinary Cool house treatment is given, and the plant thrives splendidly, having increased three-fold in size during the three years that it has been in the collection. When exhibited at the Drill Hall the plant carried two strong inflorescences, about three feet high, and these bore respectively thirty-one and thirty-two flowers, as shown in the picture. It is a noble species when thus grown, and the flowers are much handsomer than they appear in the figure, for this colour seldom comes out well in a photograph. Mr. Groves remarks, that the sphagnum is covered with small sundews (Drosera rotundifolia) which thrive splendidly in the moist medium. Some of these may be seen in flower if the picture is examined with a lens, but they are much more distinct in the original photograph.

LÆLIO-CATTLEYA × DOMINIANA LANGLEYENSIS.

We have received from Messrs. James Veitch and Sons a four-flowered inflorescence of the above beautiful hybrid, which received a First-class Certificate from the R.H.S. on October 11th last. It was raised from Lælia purpurata ♀ and Cattleya Dowiana ♂, and thus settles a doubt about the parentage of the original type, which flowered just twenty years previously. It was originally described by Reichenbach under the name of Lælia × Dominiana, as follows:—"All the staff of the Veitchian nursery was in great excitement lately about 'the seedling.' The seedling had flowered. 'The seedling!' you say, wondering, since there are thousands and thousands of seedlings at the Royal Exotic Nursery. You are right; but the seedling *kai exochen* was understood by a kind of universal suffrage to be Mr. Dominy's seedling, a cross between Cattleya Dowiana and some Lælia, probably elegans. There were three beautiful buds, and one expanded on Sunday, August 11, just at 12 o'clock, to the ecstacy of those present. The plant has the habit of a Venezuelan Cattleya Mossiæ, but the leaves are longer, and remind one of Lælia elegans. The sepals are light purple, with dark reticulations, which remind one of the first named species. The petals and lip are nearly those of C. Dowiana,

even to the diameter. The lip has nothing of the yellow of that species, but its deep blackish-purple makes a wonderful impression. The pollinia are exactly like those of Lælia elegans. The wishes of Messrs. Harry and Arthur Veitch coincided in the dedication of this beauty to Mr. Dominy, whose merits are too well known to require me to speak more of them. The plant received the most distinguished of London and suburban visitors at its domicile, and then crossed the Channel for Versailles, and now two of the flowers lie before one very distinctly, showing the fatigues of travelling and of being exhibited." Rchb. f. in *Gard. Chron.*, 1878, x. p. 332.

Two plants were originally raised, the second of them, having white sepals and petals faintly flushed with amethyst purple on the distal half, and a much paler lip, being described as L. × Dominiana rosea (Douglas in *Gard. Chron.*, 1881, xvi., pp. 53, 108). This received a First-class Certificate from the Royal Botanical Society in 1881, and Mr. Douglas stated that it was the last of Mr. Dominy's seedlings, which was raised fifteen years previously from L. × exoniensis crossed with C. Dowiana, and was then flowering for the first time.

Commenting on the uncertainty about the parentage, Messrs. Veitch suggested that the type might yet have to be relegated to Cattleya, as one parent was unquestionably C. Dowiana, and the probability was great that C. Mossiæ was the other; but respecting the variety they surmised that Lælia purpurata was used. "Be the parents what they may," they add, "both forms are exceedingly handsome and distinct from all other hybrids. We are not without hope that the numerous seedlings in our nursery that have not yet flowered, but whose parentages have been carefully registered, may eventually afford the means of determining the parentage of both the above." (*Veitch Man. O.* ii., p. 95). This was in 1887, and at last the matter has been set at rest, for the unequal pollinia of the type show that one parent must have been a Lælia. It has since been suggested, mainly on account of the dark sepals and petals, that this plant had Lælia Boothiana for the second parent (Rolfe in *Gard. Chron.*, 1889, vi., p. 79), but this idea may now be given up. Both plants passed into Baron Schröder's fine collection.

It now appears that the parentage might have been settled earlier, had the necessary comparison been made, for Lælio-cattleya × Sir William Ingram, which received an Award of Merit from the R.H.S. in April, 1896, was raised in the collection of C. Ingram, Esq., of Godalming, from L. purpurata ♀ and C. Dowiana ♂ (*O. R.*, iv., p. 156); and L.-c. × Apollonia, which received a similar award in November following, when exhibited by Mr. James Douglas, of Great Bookham (*O.R.*, v. p. 26), was also derived from the same parentage. Then L.-c. × tyntesfieldensis, from the collection of G. W. Law Schofield, Esq., which received a First-class

Certificate at the Temple Show in 1897, was described as clearly originating from the same two species. Yet again, in June, 1897, Messrs. F. Sander and Co. received an Award of Merit for L.-c. × Empress of India, derived from L. purparata Brysiana × C. Dowiana. Of course all will now rank as forms or varieties of L.-c. × Dominiana. Other seedlings are in existence, both from the same and the reversed cross, which have not yet flowered, so that the hybrid is likely to become more common in future; a fortunate circumstance, for the long list of awards above cited afford sufficient evidence as to its beauty.

PAPHIOPEDILUM × FITCHIANUM.

This is a most floriferous winter-flowering hybrid, being unsurpassed, if not unequalled, by any other which we are acquainted with. A small or medium-sized plant will throw up quite a mass of flowers just at the dullest season of the year, and if only they were more brilliant in colour it would be quite an ideal plant, for it is a robust grower, and the leaves are extremely handsome, being regularly blotched with dark green on a pale grey ground. In fact, it is worth growing for its foliage alone. It was raised by Messrs. B. S. Williams and Son, and is figured as Cypripedium × Fitchianum in the *Orchid Album* (viii., t. 350). It is described as a hybrid between C. Hookeræ and C. barbatum, owing to which it is classed by Hansen as a synonym of C. × marmorophyllum. Some mistake, however, has been made, for there is no trace of C. barbatum either in the flowers or leaves, while on the contrary, the characters of C. venustum are strongly stamped upon both, affording unmistakable evidence that that species was one of the parents. The second parent is not quite so certain. Williams cites C. × Atys as a synonym (*Orch. Gr. Man.*, ed. 7, p. 260), but that is descended from C. Hookeræ ♀ and C. venustum ♂. Moreover, that has a larger, rounder staminode than the present one, and bears about the same relation to it that C. Hookeræ bears to C. Bullenianum. These two species are remarkably alike in general character, but the latter has a smaller, less highly-coloured flower, with a staminode of scarcely half the size, which facts indicate pretty clearly that C. Bullenianum, not C. Hookeræ, was the second parent. Those who possess this hybrid should try the effect of crossing it with some neat highly-coloured form, not too different in other respects, for its floriferous habit and handsome foliage are too good to be neglected. If the shape and colour could be improved without sacrificing other characters the experiment would not be made in vain.

ORCHIDS AT ELMFIELD, SELLY OAK, BIRMINGHAM.

ELMFIELD, the residence of H. W. Elliott, Esq., J.P., has not hitherto been famed far and wide for its Orchids, and a visitor may therefore feel a little surprised at finding there a comparatively complete and well grown collection, having but few equals in the neighbourhood. There are four houses devoted mainly to Orchids.

The East Indian house is a low-built, span-roofed house, containing many plants of exceptional merit, among which may be mentioned a fine batch of Phalænopsis Schilleriana with healthy glossy leaves, one fine plant being already in bloom. There is also a very fine useful lot of Cypripediums, such as C. Spicerianum, a fine batch, C. Stonei, in bloom, and grand plants of C. philippinense, × De Witt Smith, Lawrenceanum, Mastersianum, × Harrisianum, callosum, œnanthum superbum, Charlesworthii, × Charles Canham, superbiens, Curtisii, Chamberlainianum, and, among Tropical American kinds, C. caudatum, × Schrœderæ, × cardinale, × grande, × Ainsworthii, &c. Two specimens of Miltonia spectabilis Moreliana were particularly fine, seeming perfectly at home growing on trunks of wood set up endways in pots. Nice healthy plants of the winter blooming Angræcum sesquipedale were noted in flower; also a fine plant of Catasetum Bungerothii, which I was informed is in the habit of producing nine flowers on a spike.

Another department, known as the Stove, the temperature of which resembles a Warm Intermediate house, contains a splendid lot of healthy plants of Lælia purpurata, with beautiful dark green foliage, and fine plants of Cœlogyne cristata, C. Massangeana, Lælia anceps, L. Perrinii, Lælio-cattleya × elegans, a noble looking type which usually bears seven and eight flowers on a spike.

In the next house, an Intermediate one, may be seen splendid healthy specimens of Cymbidium giganteum and C. eburneum, a good collection of Cattleyas, C. Trianæ alba and C. Percivaliana being now in flower, good examples of Miltonias vexillaria, Aerides crispum, Lælia glauca and L. Digbyana, Vanda suavis, Odontoglossum citrosmum, O. Rossii, O. pulchellum majus, Sobralia macrantha, Sophronitis grandiflora, also a nice batch of Masdevallia tovarensis, looking pleased with their position on a shelf. Perhaps the most delightful sight here was an exceptionally robust specimen of Cattleya Warscewiczii (gigas). It is a shy flowering species, hence no doubt to some extent the secret of its enormous pseudobulbs, and broad, thick, green, leathery foliage and roots, which nearly cover the outside of the pot. The bulbs can be counted back for many years, but none has ever bloomed. It will probably soon do so, when it will be interesting to watch.

In the Cool house there is a grand healthy lot of Masdevallias of the Harryana, Veitchiana, and ignea group. They are staged against a wall, which forms the back part of the house, and which is overlapped slightly by the branches of trees, thus the position is at once sheltered, cool, moist and shady, which I expect accounts for their freshness of colour—the usual black marks on the under surface of the leaves being absent—and their general healthiness. A very fine large bulbed plant of Oncidium macranthum was noted, also good plants of Odontoglossum crispum, Harryanum, Pescatorei, triumphans, Cypripedium insigne, Cattleya citrina, Lycaste Skinneri alba, Dendrobium infundibulum, and Epidendrum vitellinum, the whole forming a pretty and useful collection, in excellent health, reflecting great credit on the able management of Mr. A. Darby, Mr. Elliott's gardener.

H. A. B.

ORCHIDS FROM BURY.

We have received from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, a series of beautiful cut Paphiopedilums in further illustration of their great value as winter blooming Orchids. The earlier communication referred to is the beautiful photograph reproduced at page 17.

First among the present examples may be mentioned half-a-dozen varieties of P. insigne, one of which, called subfuscum, is markedly distinct. The form is very good, and the spots on the dorsal sepal are more or less confluent into irregular lines, and of that light brown shade so often seen on the petals of this species. The others belong to the Chantini type, with large dark spots, of which so many have been named, though they are very ill-defined in books, and one of these has also numerous small distinct spots on the petals.

The remainder are hybrids, several of them well known and of sterling merit. Three are insigne hybrids, namely, P. × Leeanum, a pale nearly unspotted form, P. × Sallieri Hyeanum (the second parent P. villosum), and P. × Swinburnei (insigne × Argus); and the second, at all events, is an improvement, for the petals are beautifully spotted as well as the dorsal sepal, while both shape and colour are excellent. P. × Mrs. Maynard (P. × nitens × Boxallii) has also retained much of the insigne character in the spotting of the dorsal sepal. P. × Calypso is very effective, combining the characters of P. Boxallii and P. Spicerianum. There are also two fine forms of the well-known P. × Lathamianum. P. × Pitcherianum (P. × Harrisianum × Spicerianum) is a very large flower, with the dorsal sepal beautifully suffused and veined with red-purple. P. × politum is probably the best of the hybrids between P. barbatum and P. venustum. A seedling

from P. Dayanum ♀ and P. Boxallii ♂ must be referred to P. × Scylla, and is chiefly remarkable for the very dark, almost black basal half of the dorsal sepal. Another seedling is from P. Curtisii ♀ and P. villosum ♂, from which two species P. × St. Hilda was derived. It is most like the former in shape, and good in colour, but the petals and lip are disproportionately large as compared with the dorsal sepal. A two-flowered scape is marked as of unknown parentage, but bears much resemblance to P. × Harrisianum, and may be a form of that or a seedling from it. The flowers are almost without exception large and very well developed, and their condition reflects great credit on Mr. Rogers, Mr. Wrigley's gardener. Three other seedlings are described on another page.

MACODES ROLLISSONI.

In the sixth edition of *Williams' Orchid Grower's Manual*, published in 1885, an Orchid is described uuder the name of Goodyera Rollissoni, Hort. (p. 366), as follows:—"A most distinct and beautiful species. The leaves are rich dark green, margined, striped, and blotched with pale yellow on the upper side, whilst below they are of a rich velvety purple. A most desirable plant and one that should be in every collection. Native country not known." In *Stein's Orchideenbuch* (p. 274) it is given under the name of Hæmaria Rollissonii, Lind., with the synonyms Anœctochilus Rollissonii, Lind. and Goodyera Rollissonii, Hort., and the habitat is recorded as Malay Islands. The source of these additional names and the habitat, I have failed to discover. Still later, in seventh edition of *Williams' Manual* (p. 411) it appears as Goodyera Rollissoni, Gower, and it is said to have been originally imported by Messrs. Rollisson and Son, of Tooting, the habitat having been lost, because the original plant came up in the mixed débris of several importations. A plant has now flowered in the collection of H. J. Elwes, Esq., Colesborne, Gloucestershire, and proves it to be a species of Macodes, though distinct from the species previously known, hence the above name. The flowers are much like those of Macodes argyroneura, Rolfe (*Kew Bull.*, 1896, p. 47; Hæmaria argyroneura, *Miq. Choix Pl. Rar. Jard. Buitenz.*, t. 16, fig. 1), though the veins of the leaves are different both in arrangement and colour. In the present species the transverse veins on either side of the midrib are very oblique, and all are yellow instead of silvery white. It is interesting to be able to refer the plant to its correct genus. M. argyroneura does not appear to be cultivated in Europe.

R. A. Rolfe.

CALENDAR OF OPERATIONS FOR FEBRUARY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperatures and general management of the various departments for this month will vary but little from the figures and directions given for the preceding one. The sun will, of course, increase in power, so also will the temperatures of the houses slightly increase in warmth under its beneficial influence during the day. Such additional warmth is of immense value to all kinds of Orchids at this season; they soon respond to its magic power, and rapidly pass from a state of comparative inactivity, into one of renewed life and active growth.

This will be more marked among the purely deciduous, and semi-deciduous, species than it will among the evergreen kinds. By the two former, I allude to the Dendrobiums, Cœlogynes, Catasetums, Mormodes, Habenarias, Thunias, Calanthes, Cyrtopodiums, and such like, most of which enjoy a long dry rest; while among the latter are the Cattleyas and Lælias, Oncidiums and Odontoglossums, Epidendrums, Lycastes, Cypripediums, Aërides and allied genera, Cymbidiums, Miltonias, Sophronitis, Phalænopsis, Trichopilias, and such like kinds, which also require a good rest, but mostly of shorter duration and less rigorous. These although equally enjoying the sunshine, and benefitting by its genial warmth, are yet at this season slower of growth, consequently evidences of new life and activity are less apparent than in the case of the aforementioned deciduous genera.

This brings me to an important cultural point, upon which I should like to place special stress. When these deciduous kinds, as, for instance, the Thunias, Pleiones, or some of the Dendrobiums, as D. Wardianum, and among the half deciduous kinds D. nobile, D × Ainsworthii, and many others, commence to grow rapidly from the base, as is natural for them to do at this season, it is frequently thought that the sooner they can be subjected to strong heat, in order to encourage such growth, the stronger and better they will be. Such an idea is wrong, and such hot treatment at this early season is, to say the least, most undesirable. Think of the quality of the growths which would result from a stimulus supplied mostly from the hot water pipes. Such undue forcing would certainly weaken all Orchids grown under such conditions. We do not want weakly, debilitated, long and spindly new growths that will not bear a puff of fresh air, and will scarcely bear looking at or touching, let alone repotting, without collapsing. We want growths that will produce pseudobulbs and roots, making altogether a plant capable of withstanding sun and air in liberal quantities, cold and heat, sudden fluctuations of the thermometer, without unduly suffering. A plant that is hardy and strong can produce its blossoms without showing

distressing signs of exhaustion, as excessive shrivelling or immature decay of the pseudobulbs, and some of the roots, the thin flimsy foliage more or less spotted with disease, and other evident signs of loss of vitality produced by a false impression or an utter disregard of their natural requirements.

To secure such ideal plants, it becomes necessary to grow each individual one as hardy as its constitution will permit. As a general rule, the days in their native habitat are hot, but the nights are cold, therefore we may allow the sun free play during this month to brighten and warm up the temperature of our houses, of course regulating the same in each compartment with a greater or lesser supply of fresh air, according to circumstances. If the ventilation is properly done, enough will be admitted to prevent anything like a stuffy or forcing atmosphere. If the days are sunless, no attempt must be made to keep up such a high temperature as on sunny days, but the figures recommended for last month should be observed. The same night temperatures should be continued, always, maintaining bottom ventilation whenever the outside weather will permit. Various species may appear to be ready and willing to grow apace, but they must still undergo the same steady, quiet, winter treatment, which alone will keep them sturdy and healthy. All the necessary growth requirements can be supplied later on, and the result will be thick, sturdy pseudobulbs of about the same dimensions as the imported ones, well-matured by the extra light, heat, and air then available.

Scarcely can it be said that any re-potting need take place this month unless it is those of the Cypripediums which have done blooming and require more pot room, and these may be done now. Cypripediums require a reasonable amount of pot room for their roots, though they may easily be over-potted, and it is best to err on the side of a pot too small rather than one over large. A plant with too much pot room, even though it might grow well, would never flower so freely as one rather cramped for space. A compost well suiting the requirements of these plants, with but few exceptions, is one composed of about two parts of lumpy peat—not necessarily the best fibrous quality—one part of chopped sphagnum moss, and the fourth part made up with a little turfy fibrous loam, broken charcoal and mortar rubbish, the whole being well mixed together, forming a body containing sufficient food stuff for their general requirements. A few bones and other manures mixed in has been tried, but with doubtful success, and anything stronger than the above I cannot recommend. The pots, which of course, must always be perfectly clean, should be filled, one third with drainage, covered with a thin layer of moss, after which the necessary compost should be added, making it moderately firm, and leaving the crown of the plant about level with the rim of the pot. After re-potting, keep moist to prevent shrivelling

and to promote new growth, but avoid getting the new materials saturated until the roots have entered it.

The exceptions to the above compost are few, but must be mentioned. The C. bellatulum and concolor group are much better potted in chalky soil, or, failing this, a mixture may be prepared of broken limestone and stiff yellow loam in equal parts. The potting should be done moderately firm, pressing it down with the thumb and fingers, using about the same amount of drainage as advised above. Water when the soil becomes dry, exactly as one would do with any other exotic plant potted in ordinary soil. These species are best suited in a light position in the Intermediate house, as indeed are the majority of the species. There are a few which grow a little more strongly in the East Indian house, as C. philippinense, Rothschildianum, Sanderianum, Stonei, and what we have been calling the Selenipedium group, still they grow readily enough under intermediate treatment. Then, again, some few species like C. insigne, Spicerianum, and villosum are sometimes said to grow best in the Cool house, and certainly they grow well enough there, but hardly so fine, I think, as in the Intermediate department.

Newly imported Orchids will also require potting or basketing as they become sufficiently advanced. No delay should take place before these new arrivals are placed in the right way to establish themselves, for they have experienced enough hardships and privations already, by their long journey and drought, and have been cast about here and there as though they were nothing but dried sticks, until their vitality has become well-nigh exhausted. When we get them home this should terminate, and, instead of neglecting them further, they should be attended to immediately. Firstly, trim away all dead matter—roots, leaves, bulbs, in fact, everything that can reasonably be supposed to be useless—then procure fresh, moist sphagnum moss, and place a good, thick layer on some boards on the stage, and on it should be placed the plants, propped up, if possible, in an upright position, so that the roots receive the moisture. Keep the moss damp, and also shade pretty heavily from direct sunshine for the first few days. Under this treatment, resuscitation will quickly take place, and, unless too far gone, they will gradually, but surely recover. By and by, new roots will be seen to be pushing forth, and then such plants should be selected out and finally potted up in the desired receptacles and treated like an established plant.

I have again, I am sorry to say, received complaints from various quarters respecting the Cattleya Fly. It has, in all instances, been brought in by newly imported Cattleyas. But to anyone acquainted with the pest, this is no reason why newly imported Cattleyas should not be bought, for it is exceedingly simple and easy to prevent the spread of

this insect. The directions are as follows:—Firstly, remove all old pseudobulbs or new growths which bear traces of having bred, or are still breeding this pest, and burn them. The old pseudobulbs may still afford shelter for the adults, whilst the premature new breaks may be in the act of breeding young. Afterwards, let the plants be subjected to fumigation with X. L. All insecticide. This having been done the rest is easy. The plants may go through their natural course of resuscitation and eventually be potting-up, the only further fear of the fly being that some few of the eyes, yet dormant, may contain living eggs of the insect, but this time only can prove. As these new eyes develop into young breaks or growths, a sharp look-out must be kept on them, and, probably, it will be found that about ten per cent. are really affected. This can be told by the abnormal growth at the base, whilst the apex appears to taper off to a point more than usual and makes but little headway. These should be cut off and burnt. Under this treatment, all dread of the fly disappears. If, however, these newly imported plants are allowed to breed the flies, and they escape, there is no telling what trouble may ensue, for the adults would then be free to attack every Cattleya in the house, the only cure for which would be the cutting off of the new growths and ruin of the plants.

There are two seasons when Masdevallias may be re-potted; one of these is during the present month, or before flowering, and the other from June to July, or after flowering. I prefer the former. Many of these may therefore now be done, which will relieve the work to some extent in the busy months of June and July. M. Harryana and its numerous varieties, M. ignea, and M. Veitchiana, are now just becoming very active, emitting new roots in great profusion, which quickly take hold of the new compost, and thus the plants soon become re-established, and look none the worse for the disturbance.

As a compost none is better adapted for the free growth of these than that advised for Cypripediums. The draining of the pots and the method of potting should also be performed in the same manner. Lean also towards small pots, for the plants can be the better secured and are much more likely to grow well than if having too much pot room. Throughout the winter up till now Masdevallias will have been receiving but little water, but now, after re-potting, the compost should be kept just moist enough to encourage root action. The warmest end of the Cool house, or a cool, moist part of the Intermediate house suits them well during winter, but during summer the former is decidedly the best.

Miltonia vexillaria is another Orchid that can be re-potted at this early season with great advantage, as it commences now to make an abundance of roots. If done now, the plants quickly re-establish themselves, and by

the time they should flower are perfectly well able to bear the strain. These also may be left until after blooming, yet I am inclined to favour the present time. Re-potting need only take place once in two years. The new foliage is very apt to get crinkled in the course of its growth, according to the nature of the seasons, but it really does no harm, as the pseudobulb forms up equally large and healthy. Should this species be attacked with yellow thrip, lose no time in putting down in the axils a sprinkling of tobacco powder.

Disas, of course, have been kept pretty short of water throughout the winter, and occupying a cool position, which they must still be allowed to enjoy. They will now be starting to grow rather more actively, and should receive a slightly increased amount of water at the root, and more liberal supplies as the season advances.

Cattleya Warscewiczii will now be breaking into growth. It mostly happens that a large percentage of these are exceedingly shy bloomers, whilst the remainder flower as regularly and freely as any other species without any extra treatment. The only way to induce the shy ones to bloom is not only to give them a very dry rest, but also to stint with water until the new growth gets several inches high. This will sometimes force them into bloom, but it is no royal or certain road to success. They are generally very fine varieties when they do bloom. Be careful not to carry this drought system too far, or the plant will turn yellow and become weak, making the cure worse than the disease.

WATERING ODONTOGLOSSUMS IN WINTER.

SPEAKING of watering Odontoglossums in winter Mr. Burberry, on page 22, remarks:—"The plants should all, without exception, be kept on the dry side—that is to say, let the compost get pretty dry before giving water." And on the next page he says that they should "still be kept moderately short of water at the root." This I fear will be the death of many plants in the hands of amateurs. I don't believe the word dry should ever be used respecting Odontoglossums.

G. W.

[Mr. Burberry may perhaps have rather overstated the case, but on page 12 he also says:—"Water just sufficient to maintain plumpness in the pseudobulbs." We should be glad to have the opinions of others on this subject."—ED.]

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Coal Exchange, Manchester, on January 12th, 1899, when many fine Orchids were staged. The following members of the committee were present:—Messrs. G. Shorland Ball (in the chair), Law-Schofield, Warburton, Greenwood, Leemann, Weathers, Johnson, Holmes, Robson and Mills (hon. sec.).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed Cypripedium × nitens magnificum, a very beautiful and distinct form (First-class Certificate); C. × Dautheri Albino (Award of Merit); C. × Germinyanum (Award of Merit); a fine specimen of Oncidium cheirophorum with some twenty spikes of bloom (Cultural Certificate), and Lycaste × Balliæ, which received a First-class Certificate at the last meeting but one.

Thomas Statter, Esq., Stand Hall, Whitfield (gr. Mr. Johnson), showed Cypripedium insigne Sanderianum (First-class Certificate); C. × nitens Lucianianum, and C. × vexillarium superbum (Award of Merit).

S. Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cattleya Trianæ Mrs. S. Gratrix (Award of Merit); Cypripedium × nitens superbum, very fine (Award of Merit); C. × Chapmanii (Award of Merit), C. × Ceres, C. × Mrs. Margaret Hye (Award of Merit); C. × Calypso, C. × Bellona superbum, C. × Alcides, and several unnamed seedlings.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Cypripedium × Measuresiæ (First-class Certificate).

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya Trianæ, Lælia Gouldiana (First-class Certificate); Cypripedium × T. B. Haywood (Award of Merit); C. × Sallieri Hyeanum, C. × Smithii, C. insigne; C. × Lathamianum giganteum, and Odontoglossum crispum. The same exhibitor was awarded a Silver Medal for a very fine group in which the above were included.

Henry Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Cypripedium × Mons. de Curte (Award of Merit), and another called C. × Gillianum (Boxalli atratum × Leeanum superbum), which received a similar award. This we should call a variety of C. × Adrastus. A small group by this exhibitor was also awarded a Vote of Thanks.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium callosum magnificum, a splendid form of exceptional size and very good in colour (First-class Certificate); C. × nitens magnificum the same variety as referred to in the earlier part of our report (First-class Certificate); C. insigne Dormanianum (Award of Merit); C. i. Luciani (Award of Merit), C. i. subfuscum, C. i. Upland's variety, with small flower, but otherwise much like Harefield Hall variety; C. × Mons.

de Curte (Award of Merit); C. × Jupiter (Award of Merit); C. × Leeanum aureum (Award of Merit): C. × Mrs. Maynard, a pretty variety but not strongly grown. This exhibitor staged a very select group of Cypripediums, in which the above were included, and was awarded a Silver Medal.

D. B. Rappart, Esq., Liscard (gr., Mr. Nicholson), showed Cypripedium × Harrisianum albens (Award of Merit).

H. H. Bolton, Esq., Newchurch (gr., Mr. Eastwood), showed Dendrobium × Andromeda (Leechianum × Cassiope) to which an Award of Merit was given.

Messrs. F. Sander and Co., St. Albans, showed Cypripedium × Euryades magnificum, C. × Lathamianum inversum, and a seedling derived from C. Chamberlainianum × Leeanum giganteum (Award of Merit). This may be considered as a variety of Paphiopedilum × Chamber-Leeanum (*supra*, vi. p. 168).

Messrs. Heath and Son, Cheltenham, showed a well grown plant and excellent form of Cypripedium Rothschildianum Elliottianum, for which both an Award of Merit and a Cultural Certificate were given.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE first meeting of the year was held at the Drill Hall, James Street, Westminster, on January 10th, when a good display of winter-blooming Orchids was brought together, and a particularly interesting feature was the appearance of the first artificially raised hybrid Angræcum, from the establishment of Messrs. James Veitch & Sons, which is described below.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), showed the handsome yellow Sophronitis Rossiteriana, which chiefly differs from S. grandiflora in colour, and is probably a variety of it. It received an Award of Merit.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), showed Calanthe × Cooksoni, C. × Sibyl, a finer, pure white form, the carmine-tinted C. × Phœbe, and a fine hybrid Cypripedium recorded as C. bellatulum × hirsutissimum, but which the Committee decided should be named C. × Schofieldianum superbum. It was large, with cream-white ground and evenly-spotted with dark purple. An Award of Merit was given.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed the handsome Cypripedium × J. Howes, a fine form of C. insigne, and a rather sparsely spotted form of C. bellatulum with yellowish white ground, called Dulcote variety, to which an Award of Merit was given.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed a large rosy form of Lælia anceps called var. Titania, and L. a. rosefieldi-

ensis, a dark variety with very richly-coloured lip, to which an Award of Merit was given.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed a plant of Phalænopsis amabilis (Blume), which had been in the collection since 1884, and flowers of P. a. aurea, P. Aphrodite, Schilleriana, Stuartiana, × leucorrhoda (from the Downside collection), and its variety casta, all from plants which had been at Clare Lawn for many years.

W. P. Burkinshaw, Esq., West Hill, Hessle, near Hull (gr. Mr. Barker), sent a fine form of Cymbidium Tracyanum.

F. M. Burton. Esq., sent a good inflorescence of Lælia anceps Amesiana.

Sir William Marriott, Down House, Blandford (gr. Mr. Denny), showed the handsome Lælia × Latona splendens.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), sent the handsome Cypripedium × Buchanianum magnificum, and a large lightly-spotted form of C. insigne called C. i. Arthurianum.

Henry Tate, Esq., Allerton Beeches, Liverpool, showed three seedling Cypripediums supposed to have been derived from C. Boxallii and C. × nitens superbum, under the names of C. × Parkerianum Tate's var., C. × Sirdar, and C. × Cromer.

Messrs. James Veitch and Sons, Royal Exotic Nursery, Chelsea, staged a choice group, to which a Silver Flora Medal was given. The chief feature of interest was the new Angræcum × Veitchii, the first artificial hybrid in the genus, and derived from A. sesquipedale ♀ and A. superbum ♂. It is a striking plant, fairly intermediate in character, and bore a raceme of three flowers and one bud, much like A. sesquipedale, but with a short spur. A First-class Certificate was awarded to the plant, and a Silver Flora Medal to Mr. J. Seden, its raiser. Another interesting plant was Epicattleya × Mrs. James O'Brien, derived from Cattleya Bowringiana ♀ and Epidendrum × O'Brienianum ♂, to which an Award of Merit was given. The plant had short stems, and a raceme of bright rose-purple flowers about two inches across. Other plants included in the group were Cattleya × Breauteana var. Hebe (Loddigesii ♀ × superba ♂), C. × leucoglossa, the handsome Lælio-cattleya × Dominiana var. langleyensis, good forms of L.-c. × Pallas, Epiphronitis × Veitchii, Epidendrum × Wallisio-ciliare, Cypripedium × Niobe, C. × Arthurianum pulchellum, C. × Zeno, C. × Leeanum superbum, C. × L. giganteum, and good forms of C. × Euryades; also, among species, the handsome Dendrobium × atroviolaceum, three fine plants of Cymbidium Tracyanum, and others.

Mr. Thomas Rochford, Turnford Hall Nurseries, Broxbourne, received an Award of Merit for a handsome Odontoglossum called O. × Ruckerianum Rochford's variety.

Messrs. B. S. Williams and Son, Upper Holloway, staged a good group, to which a Silver Banksian Medal was given. It contained good forms of Oncidium tigrinum, Lælio-cattleya × Sallieri, Lycaste fulvescens, and various Cypripediums, the more noteworthy being C. × Measuresianum, C. × Sallieri, C. × S. aureum, C. Spicerianum, C. × Harrisianum superbum, C. × Williamsii, C. × Leeanum superbum, C. × discolor, C. × Ashburtonæ Barteti, C. × Fitchianum, C. × nitens, C. × Pitcherianum Williams' var., C. insigne Wallacei, C. i. Maulei, C. i. albo-violaceum, C. i. grandiflorum, and C. i. punctato-violaceum.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed what appeared to be a form of Phaio-calanthe × Sedeni rosea.

Messrs. F. Sander and Co., St. Albans, showed some well-flowered plants of Phalænopsis Stuartiana, a handsome form of Cattleya Trianæ, C. Percivaliana, Oncidium varicosum Rogersii, Miltonia vexillaria, virginalis, &c.

ORCHID PORTRAITS.

ANGRÆCUM × VEITCHII.—*Journ. of Hort.*, Jan. 19, pp. 48, 49, fig. 10; *Gard. Chron.*, Jan. 21, p. 35, fig. 10; *Gard. Mag.*, Jan. 21, pp. 30, 31, with fig.

CATTLEYA BOWRINGIANA LADY WIGAN.—*Journ. of Hort.*, Jan. 12, pp. 24, 25, fig. 5.

CYPRIPEDIUM GODEFROYÆ LEUCOCHILUM.—*Journ. of Hort.*, Jan. 12, p. 25, fig. 6.

CYPRIPEDIUM INSIGNE HAREFIELD HALL VAR.—*Gard. Mag.*, Dec. 31, pp. 864, 865, with fig.

CYPRIPEDIUM × WOTTONI.—*Journ. of Hort.*, Jan. 26, p. 61, fig. 12.

EPICATTLEYA × MRS. J. O'BRIEN.—*Gard. Chron.*, Jan. 21, p. 37, fig. 11.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

R. T. A small, unspotted form of Odontoglossum crispum, evidently from a weak plant, which may be O. c. virginale when properly developed.

F. L., Dresden. Lycaste brevispatha and Stanhopea oculata.

W. H. R., Chislehurst. The flower seems just intermediate between Cypripedium × Calypso and C. Boxallii. Is it not possible that this was the pollen parent? There is no trace of C. bellatulum in the flower.

J. W. P., Croydon. An excellent form of Cattleya Trianæ, with the general shape of C. T. Arkleana, but the lip very different in colour; the yellow blotches being here normally developed. It should be taken care of.

Photographs received with thanks :— C. C. H., F. L.

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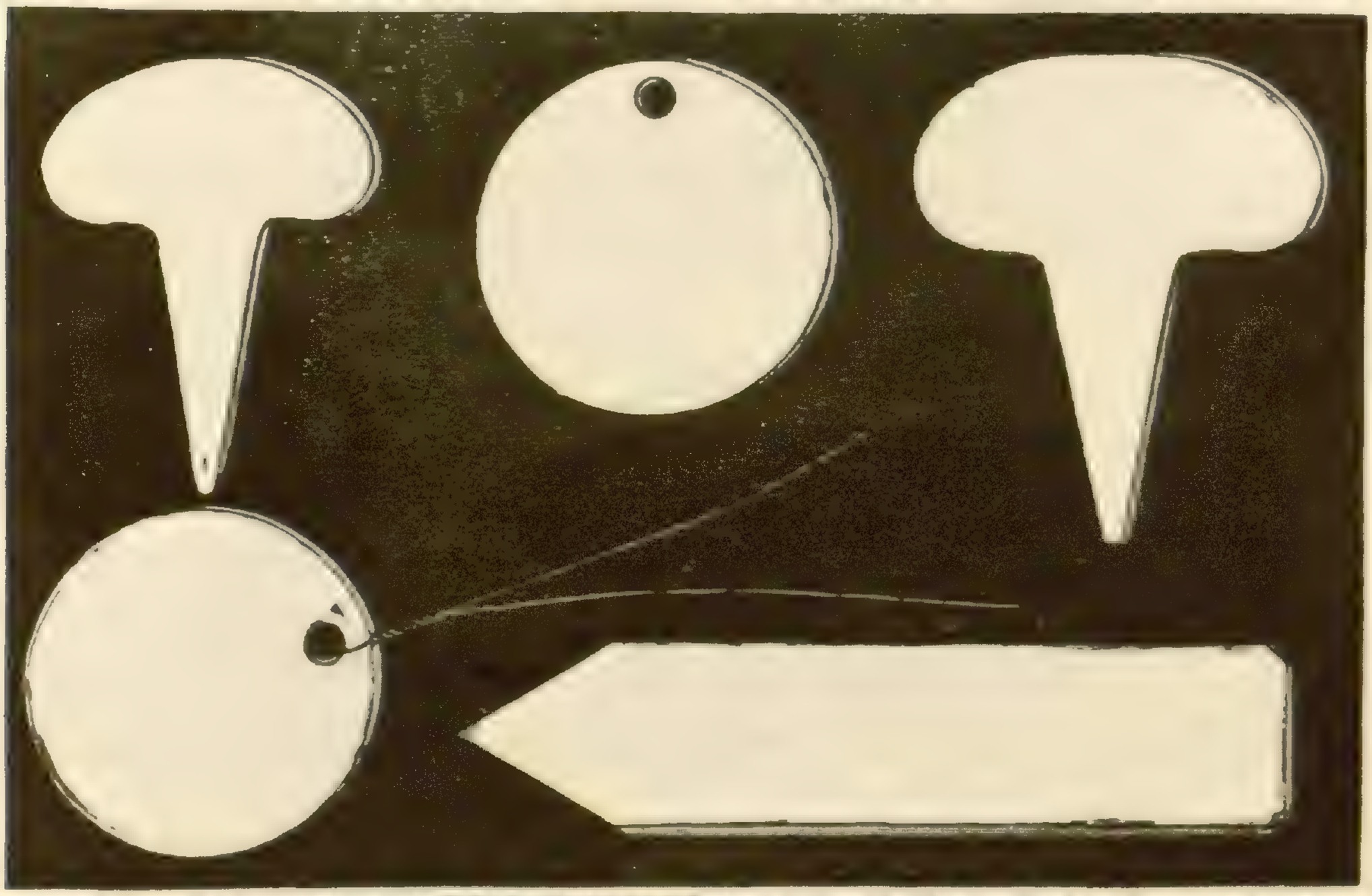

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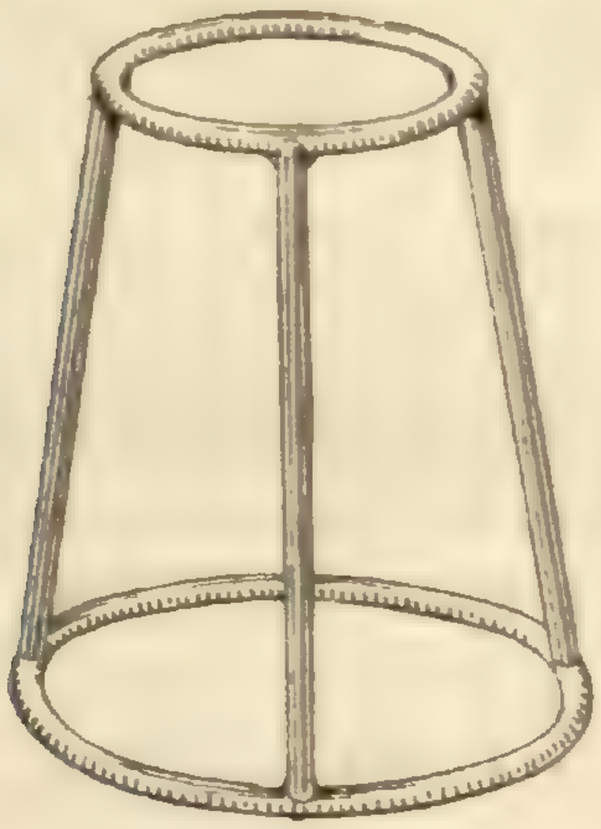

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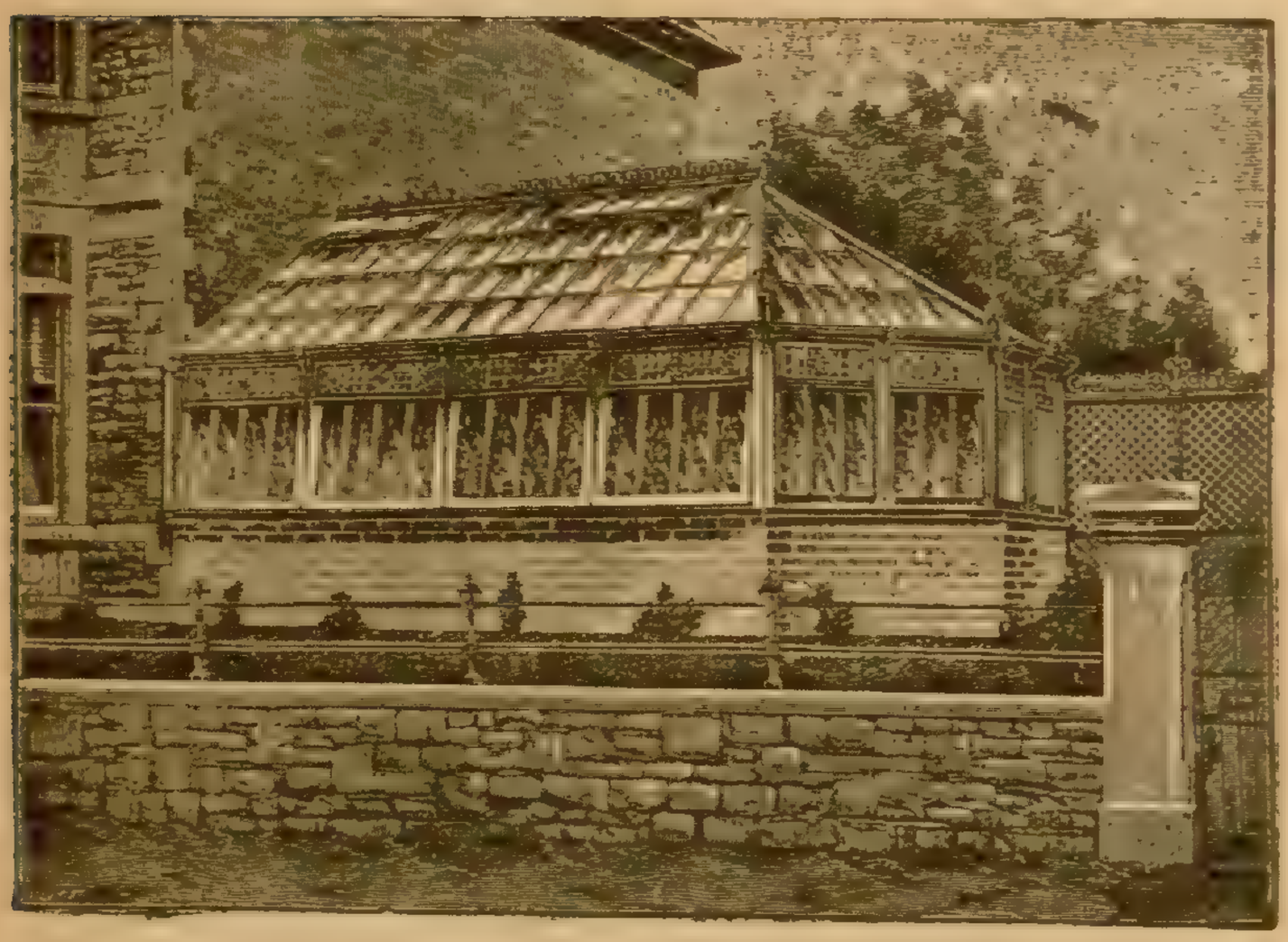

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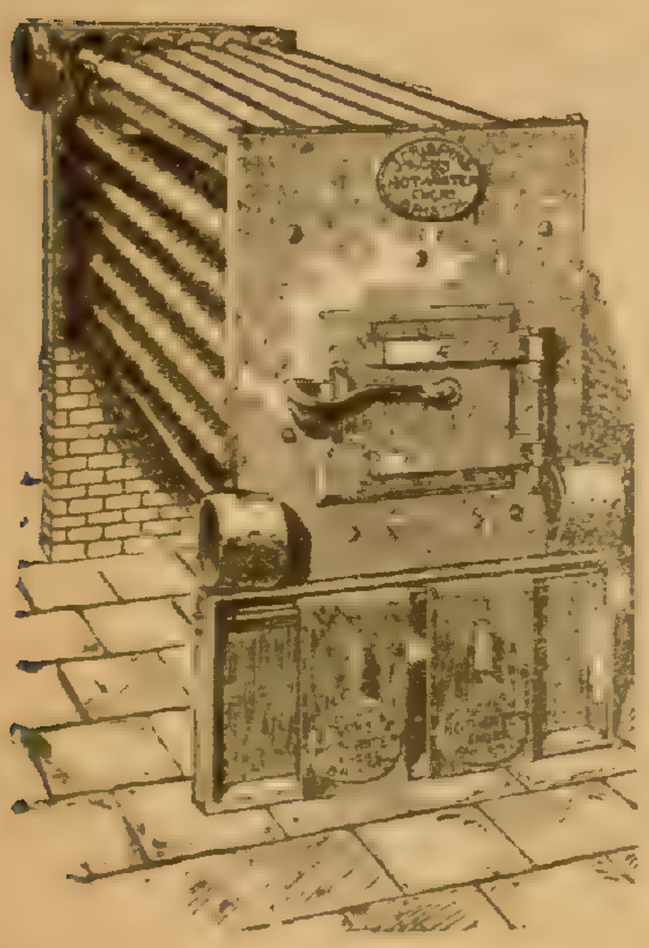

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VOL. VII.] MARCH, 1899. [No. 75.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *MARCH*, 1899. [No. 75.

NOTES.

Two meetings of the Royal Horticultural Society will be held during March, on the 14th and 28th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The March meetings of the Manchester and North of England Orchid Society are fixed for the 9th and 23rd, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection from one o'clock until four.

Another success in raising hybrid Odontoglossums has been attained in the collection of Baron Edmond de Rothschild, of Armainvilliers, near Paris. M. Jacob has flowered a beautiful hybrid between O. crispum and O. Pescatorei. It is most like the latter in habit and general character, but the sepals and petals are said to be more like O. crispum. We have not yet seen it.

M. O. Doin, of Paris, is said to have exhibited a beautiful example of Paphiopedilum Rothschildianum, which he has succeeded in raising from uncrossed seed. Few true species of Orchids have yet been raised in this manner.

A handsome hybrid Paphiopedilum is sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst, by Mr. Robbins. It is a seedling from P. × Calypso, crossed, it is said, with pollen of bellatulum, though it has so much of the appearance of P. Boxallii as to suggest that that species was the pollen parent. It may be briefly described as three-fourths of the latter with one-fourth P. Spicerianum.

A very fine spike of Odontoglossum sceptrum is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. It bears twenty flowers, and is evidently from a very strong plant, as the flowering portion of the raceme measures 2½ feet long. A striking form of the polymorphic O. × Wilckeanum is also enclosed. It has rather long and narrow sepals and petals, light primrose in colour, with numerous light chestnut spots. The lip and crest also approach O. luteopurpureum rather more than the other parent.

It is well known that Odontoglossums are special favourites with Mr. Thompson, who has one of the best collections in existence, and Mr. Stevens states that they have now cleared out the Paphiopedilums entirely in order to make room for Odontoglossums.

A four-flowered inflorescence of the handsome Lælio-cattleya × Gottoiana is sent by Messrs. Linden, L'Horticulture Internationale, Brussels. It came out of one of their Brazilian importations. This fine natural hybrid has appeared on several occasions among importations of Cattleya Warneri and Lælia tenebrosa, from which it is clearly descended.

A very large and brilliantly coloured form of Cattleya Trianæ is sent from the collection of W. S. McMillan, Esq., of Maghull, Liverpool, which may be referred to the variety magnifica, as it chiefly differs from the type in the characters just mentioned.

A very fine Dendrobium nobile is sent from the collection of Isaac Carr, Esq., Poolemeade, Twerton-on-Avon. The flower measures three inches from tip to tip of the petals, which themselves are nearly 1¼ inches broad, and, like the sepals, brilliantly coloured almost to the extreme base. It belongs to the gigantum type, and very closely resembles D. n. nobilius.

The beautiful Lælio-cattleya × warnhamensis has again been raised. MM. Cappe et fils, of Vesinet, France, send a flower from one of their seedlings (L. cinnabarina ♀ × C. Trianæ ♂). The seeds were sown in March, 1895, and a first flower appeared in January last. The colour is orange-yellow, with the front lobe of the lip intense purple-crimson, and the apex of the side lobes of a lighter shade of crimson. It will be a fine thing when the plant gets stronger.

A very fine form of Paphiopedilum × Charlesianum is also sent, which was obtained from P. × Leeanum crossed with the pollen of P. × Sallieri aureum. The dorsal sepal closely resembles a fine form of P. × Leeanum, but the petals and staminode show much of the form and colour of the other parent. The upper halves of the petals are prettily marked

with red-brown reticulation, and the dorsal sepal is tinged with yellow in the centre, giving a very pretty effect. The history of this hybrid is given at page 359 of our last volume.

Three more numbers of the interesting little *Dictionnaire Iconographique des Orchidées* of Messrs Cogniaux and Goosens have been issued since our note at page 1 appeared. We have not thought it necessary to enumerate the plants figured in this work in our list of "Orchid Portraits," for if the plates are kept arranged alphabetically (as the authors intend) it is quicker to turn to the work itself. The plant figured as Oncidium calopogon, can scarcely be the one so named by Reichenbach, and we take it to be a form of O. × Gardneri, Lindl. We may also mention that Vuylsteke, not Rolfe, should be cited as the authority for the name Odontoglossum × Rolfeæ.

The object of our monthly list of "Orchid Portraits," to which allusion was made in the preceding paragraph, is to collect together the scattered figures which appear in the various horticultural works, and by means of the alphabetical index at the end of each volume, it is possible to trace quickly where figures of different Orchids may be found.

A series of over a dozen distinct forms of Dendrobium nobile have been sent by Messrs. B. Hurst & Son, Burbage Nurseries, Hinckley. They are selected from a series of forty, from one of the importations of Messrs. F. Sander & Co. from the Lang Tang Mountains. They vary greatly both in size and colour, and afford a good idea of the variation to which this species is subject. One flower, which is either D. n. Sanderianum, or barely distinguishable from it, is about the darkest form which we have yet seen. A very pretty, much-spotted form of Odontoglossum × Andersonianum, and a good Cœlogyne cristata, are also enclosed.

Three fine and beautifully developed flowers are sent from the collection of R. G. Thwaites, Esq., of Streatham, namely Dendrobium nobile elegans, D. n. burfordiense, and D × Ainsworthii roseum, the latter a charmingly-coloured variety. The first-named has petals an inch broad, and all are excellent examples of good culture.

The collection of Orchids formed by the late Henry Mason, Esq., of Bankfield House, Bingley, near Bradford, is to be disposed of. It contains a number of choice Odontoglossums, as O. crispum Stevensii, O. c. Charlesworthii, O. c. Trianæ, O. c. giganteum, O. Chestertoni, &c. Particulars will be found in our advertisement columns.

We have received from Messrs. James Veitch & Sons, Chelsea, examples of several beautiful hybrid Phalænopsis, raised in the establishment. They

are P. × Ariadne (Stuartiana ♀ × Aphrodite ♂), a fine white, with very prettily spotted lip: P. × F. L. Ames (amabilis ♀ × intermedia ♂), white with some yellow and crimson-purple markings on the lip; P. × Hebe (Sanderiana ♀ × rosea ♂), sepals and petals blush, lip wholly fine rose-purple; and P. × Mrs. J. H. Veitch (Lueddemanniana ♀ × Sanderiana ♂), flowers most like the former but much enlarged, the colour light yellow, dotted with light red-brown, and the front lobe of the lip broad, and terminating in two minute cirrhi.

With reference to Paphiopedilum × Rossianum, with a three-flowered scape (p. 35), Mrs. Ross writes:—"It is marvellously floriferous, every young plant produces a flower. The plants are eight years old, and there is one with five growths and five flowers. The leaves are handsome, and the plant grows like a weed."

Flowers of two other seedlings of Paphiopedilum × calloso-barbatum are sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. They are much like the one previously described (p. 48), but rather better developed, and certainly very beautiful. A few other seedlings are also enclosed, which may improve as they become stronger.

ORCHIDS IN SEASON.

With the gradually lengthening days, and the increased amount of light and warmth, our favourites are rapidly putting on their spring dress, and the time is rapidly approaching when they will again reach their maximum for the present season. It is a source of great satisfaction to go through the collection and note the numerous plants which are throwing up spikes, and the preparations for renewed activity on the part of those which flower at other seasons.

In the Warm house may now be seen a brilliant display of Orchids, which is largely made up of the genera Dendrobium, Phalænopsis, and Paphiopedilum. Dendrobium nobile and its numerous varieties are now objects of great beauty, and recent importations have revealed a wealth of variation which could hardly have been anticipated a few years ago, ranging from deep rose-purple to pure white. D. Wardianum, crassinode, primulinum, and several other species are also now very beautiful, together with the numerous forms of D. × Ainsworthii, as roseum, Leechianum, splendidissimum, and others. Some of the latter are improvements on D. nobile, for the lip is better displayed, in this respect taking more of the character of D. aureum, the other parent. D. × Rubens and some of the secondary hybrids are also very fine. Phalænopsis Schilleriana is making a beautiful display of its

charming rose-pink flowers, while the allied P. Stuartiana, amabilis, Aphrodite, and some of the hybrid forms are also very effective. Among Paphiopedilums now in flower must be mentioned P. villosum, Boxallii, callosum, × Lathamianum, × Harrisianum, × Williamsianum, and a series of other hybrid forms of the most floriferous character.

The Cattleya and Intermediate houses also contain some interesting things. Cœlogyne cristata and its varieties are now in full season, and are literally wreathed in flowers. Cattleya Trianæ and Percivaliana are still good, and the first flowers of C. Lawrenceana are already opening. Lælia harpophylla is also producing its brilliant flowers. Then there is the handsome Lycaste Skinneri in flower, together with L. mesochlæna and some of its allies, the graceful Platyclinis glumacea, and the richly-coloured Stenorhynchus speciosus.

The Cool house is rapidly increasing in beauty, for the Odontoglossums are now coming on rapidly, and will soon reach their maximum for the season. O. crispum takes the first place, but O. Pescatorei, triumphans, luteopurpureum, and gloriosum, all contribute to the display. The hybrids also must not be overlooked, the polymorphic O. × Andersonianum, × Wilckeanum, and × excellens being especially beautiful. Suspended from the roof are plants of O. Rossii, Cervantesii, with the brilliant little Sophronitis grandiflora, S. cernua, and a few other gems.

DIES ORCHIDIANÆ.

Some time ago I alluded to the rapid progress being made in hybridising Orchids, and the difficulty of keeping anything like a complete and intelligible record of the constant stream of novelties which are continually being raised. The case of Lælio-cattleya × Dominiana, discussed at page 50, is very instructive in this connection, for it now appears that this beautiful hybrid between Lælia purpurata and Cattleya Dowiana has received no less than five different names. And this condition of things is becoming far too common, and demands the serious consideration of all those who are interested in hybrid Orchids. The question is, what steps shall be taken to meet the difficulty?

This question called forth the following remarks from C. J. H. in a recent issue of *The Garden* :—The plurality of names in the nomenclature of hybrids is most confusing. The Orchid Committee of the R.H.S. cannot claim to be blameless in this matter. They have their rules for guidance, but I am sorry to say they have been obeyed more in the breach than in the observance. Seedlings from crosses that have been previously recognised, have been in some cases certificated four or five times over. Surely with

careful records, and the paintings of certificated flowers, someting might be done to prevent such occurrences in future. Owners of plants also might assist by consulting one or other of the numerous lists of hybrids that have been published before naming any of their seedlings.

I have noted down several recent examples of this confusion, for one or two of which it is difficult to find an excuse. On a future occasion I may be able to discuss them.

We have not yet done with the Cypripedium question, as, indeed, I indicated in my concluding note last month, and we may now hear the views of other correspondents on the subject. E. F. C. writes:—From sundry notes in the pages of the ORCHID REVIEW, it would seem that the word "Cypripedium," after having been recognised as the name of a genus for a long time, is in some danger of being thrown over, and a new name "Cypripedilum," substituted for it, which seems rather a pity. There appears to be no doubt that Linnaeus had a slipper in mind, when he framed the word Cypripedium, but whatever the true derivation, it seems clear that, at the time of the original description, there was some confusion of ideas, or of grammar, but it seems far better now that the word Cypripedium should be retained, on the ground of long recognition, if it can be by any means justified. The same argument would apply to Selenipedium. As to the names of the other genera, apparently correctly formed out of Cypripedium, priority, as well as the natural sense of the words, seems certainly to require that two at least, viz., Paphiopedilum and Phragmipedilum, should be so spelt, the idea of a slipper being distinctly in the namer's mind. To allow uniformity of ending to count against priority would seem to open a dangerous door, and raise a question as regards other allied genera.

W. E. B. writes:—Cypripedium or Cypripedilum?—A correspondent in your January number (p. 5) remarks that "the difference between the correct and incorrect word is very slight, especially if pronounced correctly. The popular pronunciation of 'pedium' with a long e (like peedium) is incorrect, because ε in Greek is always short, and ped-i-lum (or ped-il-um) sounds better than ped-i-um (both e and i being sounded short)." So it may; but it is *not* so pronounced correctly, and exposes a shocking "false quantity." The Greek iota (ι) is not like the Greek epsilon (ε) invariably short, and in the word πέδιλον, pedilon—a sandal—it is as long as it can be. With the new spelling, the pronunciation is Cypripe-die-lum, and so with the other three genera. The pronunciation Cypri-peddylum is a monstrosity—almost a "freak." Bigeneric—I mean Graeco-Latin words are so common that they have to be accepted, but "false quantities" may be arrested at sight. Adopting the derivation from the "foot cover," *i.e.*,

slipper (and not the "foot"), as I suppose everybody now does, let us use the new spelling, but never forget that the i is long.

A third correspondent observes:—I notice that you have now decided in favour of the names Cypripedilum, Paphiopedilum, and Phragmipedilum. The argument in favour of the adoption of these names seems to me to be reasonable, if not actually conclusive, so for the future I also will make use of them.

And a fourth says:—Respecting Paphiopedilum, I suppose we must follow Pfitzer and Sir Joseph Hooker, and insert the "l," though I much prefer the form "Paphiopedium." I am glad to see that this month the new names are adopted uniformly. It is much more consistent. I find that the man in the street, be he "Tom, Dick, or Harry," appreciates consistency, even if he does not understand nomenclature, and the rest is only a matter of time.

It will certainly be interesting to watch the development of this question.

ARGUS.

CYPRIPEDIUM × VANHOUTTEANUM.

FURTHER evidence has come to hand which clears up the origin of this remarkable hybrid, a matter which hitherto has been doubtful. It was originally described as a hybrid of unknown parentage, which flowered for the first time at Gand, in February, 1888, and caused a great sensation. It appears that M. Dauthier, who was for many years foreman of Messrs. Van Houtte's establishment at Gand, discovered some small seedlings on the compost of a Cypripedium which had been purchased from Messrs. Veitch, of Chelsea. In course of time they reached the flowering stage, and proved to be C. × Dauthieri. Among them, however, was one seedling which seemed feeble and developed much more slowly than the others. It, however, found a purchaser in M. Jules de Cock, at the price of 20 francs. When it flowered it proved to be so remarkable that it was sold to M. Jules Hye for 2,500 francs. It was figured in *Lindenia*, iii, p. 71, t. 130, and is represented as having leaves exactly like C. × Dauthieri, but the flowers of a rosy-purple shade, with darker veins on the dorsal sepal and a narrow white margin. Messrs. Veitch, in the following year, recorded it as C. × Madame Van Houtte (*Man. Orch.*, iv. p. 90), and remark:—"supposed to have originated in the horticultural establishment of M. Louis Van Houtte, at Ghent." "Parentage doubtful; probably C. niveum and one of the species of the C. venustum group (C. barbatum, &c.)" C. niveum and C. × Dauthieri have also been suggested as the

parents (*Orch. Rev.*, 1893, pp. 259, 260). M. Debois, in the last edition of his Monograph of Cypripedium (p. 456), now states that when the plant flowered for the second time, in 1889, it came as ordinary C. × Dauthieri, and thus furnishes another instance of the curious sportive character of this hybrid, which has several times been discussed in the *Review*.

CATTLEYA × CLAESIANA.

A VERY interesting hybrid has been raised by Mr. T. L. Mead, of Oviedo, Florida, U.S.A., from Cattleya intermedia ♀ and C. Loddigesii ♂. It is the first which has flowered in the collection, but, strange to say, this initial attempt solves the origin of a very doubtful natural hybrid, namely, Cattleya × Claesiana, which appeared some few years ago with Messrs. Linden, L'Horticulture Internationale, Brussels. I am under the impression that it was exhibited by them at a meeting of the Orchidéene, and obtained some award, though I have not succeeded in finding a record. At all events one of the plants flowered in the collection of the Right Hon. Joseph Chamberlain, M.P., at Highbury, Birmingham, in 1894, and the inflorescence was sent to Kew for preservation. It was supposed to be a natural hybrid between the two species just mentioned, but much resembled C. intermedia, differing somewhat, however, in shape, and in the more crisped front lobe of the lip. It was obviously not typical C. intermedia, but I felt that the evidence of its origin was not conclusive, and, therefore, waited until more evidence was forthcoming. In May, 1896, a Cattleya was exhibited at a meeting of the R.H.S., by the Hon. Walter Rothschild, Tring Park, under the name of C. × intermedio-Loddigesii. It is said to have been received from Rio de Janeiro as a natural hybrid of the species named. The sepals and petals were bluish white, with a few purple spots, and the front of the lip purple-crimson. In general appearance the flower was close to some forms of C. intermedia, but the prolonged isthmus to the front lobe of the lip, as seen in C. intermedia, combined with the more ample and frilled elge of C. Loddigesii seemed to indicate mixed parentage (*Gard. Chron.*, 1896, xix, p. 593). Mr. Mead's seedling is at present smaller than the C. × Claesiana above mentioned, but is otherwise so similar that their common origin can hardly be doubted, and thus its appearance is especially interesting. Mr. Mead describes the flower as $4\frac{1}{4}$ inches across, intermediate in form between the parents, with all the lobes of the lip charmingly fringed; the sepals, petals, and front lobe of the lip all of palest lavender, just a tinge, and the rest of the lip creamy-white. It is a very vigorous grower, and though only $3\frac{1}{2}$ years old produced two spikes of flowers from two leading growths. The pollen parent was purchased as C.

Harrisoniana, and Mr. Mead states that he has had the same plant from several sources, both there and in England, under the same name, and they have all been alike, very light coloured, with a tinge of yellow on the lip. It is certainly C. Loddigesii, and it is very curious how the names of the two species should have been transposed in cultivation in the way they have been. Mr. Mead has other seedlings from the same pod which are not equally precocious, being of about average growth, and it will be interesting to know what the flowers are like when they appear.

R. A. ROLFE.

THE HYBRIDIST.

EPIDENDRUM × BURTONI.

A VERY pretty hybrid Epidendrum was exhibited at the Drill Hall on February 14th, by F. M. Burton, Esq., Highfield, Gainsborough, whose history is thus given by Mr. Burton. In March, 1895, plants of E. O'Brienianum and an orange-scarlet species, believed to be E. ibaguense, were in bloom in the collection, and were crossed together both ways. In the autumn the capsules ripened, the seeds were sown, and the young seedlings were observed to be coming up in the following June. The seedlings from E. ibaguense are six in number, one of them being now in flower. Those from the reverse cross (E. × O'Brienianum as the mother) number about five dozen, and of these several are throwing up spikes. Of course all will be ranked as forms of the same hybrid. The scape, for which we are indebted to Mr. Burton, is about a foot long, and bears at its apex a short corymbose raceme of about twenty flowers, which are over an inch in diameter, and almost vermilion in colour, the lip being fringed much like that of E. × O'Brienianum. It will be interesting hereafter to note the range of colour in the different seedlings, for three species are represented in the cross. It would be interesting to see if Epiphronitis × Veitchii would exercise a dwarfing influence on the Epidendrums of this group.

PAPHIOPEDILUM × OLGA BAGSHAWE.

There is a richly coloured hybrid of good shape, raised in the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool, by Mr. Archer, from P. × œnanthum superbum ♀ × P. callosum ♂. The dorsal sepal is nearly orbicular, reddish purple in colour, with many much darker nerves and a narrow white margin. The petals are purple-brown, with a small light-green basal area, and several irregular somewhat confluent spots near it, a rather novel feature. The lip is neat in shape and dark purple brown in colour, and the staminode most like P. × œnanthum. Altogether it is a very promising seedling, and is sure to improve as it becomes stronger.

NOTES FROM FLORIDA.

LAST spring and summer my Orchids received heavy fertilization two or three times a week. Nitrate of potash and phosphate of ammonia were added to the water with which the plants were daily hosed, and every night the greenhouse was closed and saucers of carbonate of ammonia distributed through the house. The Orchids all grew luxuriantly until September, when I began to have trouble—new shoots coming scorched and disfigured and frequently rotting off. The weather changed at the same time from extreme and unseasonable drought to constant rain and saturated atmosphere, with a daily temperature over 90°. This temperature, however, is usual all the summer.

Not knowing the cause of my trouble, I stopped fertilizing and have not resumed the practice, but the disease continued, and I have not yet had a clean and perfect growth on any of the plants, although the weather has varied through all sorts of seasonable changes. The cause seems to be yellow thrips, and not due to either weather or fertilizer. The insect was entirely new to me, and was present in such small numbers—only three or four to each young growth—that it seemed impossible that it should be responsible for such injury to the plants. I have fumigated thoroughly with nicotine—making the vapor so strong that a person could not remain in the house more than a minute or two, and keeping up the evaporation all day long—and am now trying the "XL All," and also spraying with a solution of pyrethrum (insect powder), and I think the enemy is routed.

During the six months of fertilizing I evaporated nearly thirty pounds of carbonate of ammonia in the greenhouse (15 × 60 feet, 11 feet high). The saucers were always put in the same place every night, and there were Cattleyas and other Orchids within six inches of the ammonia lumps, and consequently fairly soaked with the fumes every night; but they were not injured, and, in fact, averaged rather better in appearance than those farther away. Very likely the fumes may have kept the thrips away from them to some extent. Most of the Cattleyas and Dendrobiums made a second growth as soon as they finished the first, and many three-year old seedlings doubled and quadrupled in size.

One hybrid, Cattleya intermedia ♀ × Loddigesii ♂, had always been precocious beyond its mates—at six months it had a basal disk three-eighths of an inch across, its first leaf was half an inch long and broad, while the rest of the plants from the same pod remained of average size. Last summer it was $3\frac{1}{2}$ years old, and flowered from both of two strong leads. The sepals, petals, and front lobe of the lip were all of palest lavender, just a tinge, and the remainder of the lip creamy white. All three lobes were charmingly frilled; the flowers being $4\frac{1}{4}$ inches across, and quite

intermediate in form between the parents. It now bears a fine pod crossed with its own pollen, and its pollen has also made large pods on C. Leopoldi and Epidendrum nocturnum. I hope it may transmit its constitutional vigour to some of its posterity. I have already two off-shoots four or five inches high from back breaks of this plant, which certainly grows like a weed. This was recorded as C. intermedia × Harrisoniana (*O. R.* iv., p. 171), but it now appears that the second parent was C. Loddigesii.

My seed planting was very successful after June in polypodium fibre (fresh fern mats) in my tree-top "eyrie" (see *O. R.* iv., p. 180), and from July to October I averaged five hundred little hybrids transplanted to pots every month. About one-fourth of them still survive.

A mossy piece of magnolia bark (Magnolia grandiflora), about one square foot in area, was planted thickly with a mixture of Lælia and Cattleya crosses, and hung up in the greenhouse September 12th, 1898, just when the adult Orchids were beginning to do so badly. Two or three fumigations with ammonia were made after that, which may have stimulated the seedlings. At any rate, they made quick response, and at four weeks from planting I counted 160 opaque green disks, either with leaf points or nearly ready to push one.

The block was dipped in a pan of water two or three times a day. Later, it was moved out-doors and sprayed frequently instead of being dipped. At eight weeks there were 320 plants; at twelve weeks, 347. Then it was moved back into the greenhouse, the weather became foul and dark, and the number of plants fell to 250 in a week, the loss being among the smallest plants. By the middle of January, some of the best ones, with two or three leaves, began to show black spots, and I transplanted the remainder to pots—about 150 plants.

Finding the experiment turning out so favourably in October, I had an ancient moss-grown magnolia chopped down and cut into slabs, some thirty of which I planted with hybrid Orchid seed, and kept sprayed. The slabs coming from near the ground scarcely germinated a seed, but those from 20 to 30 feet up yielded from two or three up to about 150 plants each. I also tried oak bark, but while the seeds started promptly, giving leaf-points in three weeks, they seemed more subject to disease, and their number dropped from 250 at nine weeks to 125 at ten weeks, when they were transplanted to pots and nearly all died.

A number of experiments with Epidendrum radicans, crossed with allied species, were very successful, E. cinnabarinum × radicans giving the quickest growth I have ever had with any Orchid seed, expanding into a broad disk with plenty of root-fibres within nine days of planting, the leaf-point showing two days later, and the best plant standing an inch high at six weeks. Great numbers of plants were obtained of this,

and of the reciprocal cross (E. radicans ♀); also from E. radicans pollen on a Cuban Epidendrum allied to E. nutans.

Mr. Orpet, of South Lancaster, Mass., kindly sent me seeds of E. × O'Brienianum × elongatum, which yielded many plants, and from E. × O'Brienianum pollen sent by him I got good seeds on E. cinnabarinum, but lost the plants subsequently. Mr. Orpet also sent me seeds of Cattleya amethystoglossa × E. × O'Brienianum, from which I have a few plants, and I raised seeds of the same Cattleya crossed with E. radicans—of this cross two plants remain alive.

Moreover, the Cuban Epidendrum mentioned above, has yielded several plants, as the result of crossing with Cattleya Skinneri; crossed with Schomburgkia undulata pollen, the seeds germinated, but died before making much progress.

I have also this year several plants of Schomburgkia undulata × E. radicans; of C. Bowringiana × E. cochleatum and of E. nocturnum × E. osmanthum and cucullatum (mixed pollen).

Plantings of four or five other Epidendrum crosses, on C. Bowringiana ♀, &c., have yielded one or two plants each, but there is more or less doubt whether the growing seeds may not have been accidental intruders, and I will not list them till they show their character.

Of three plants of C. Bowringiana × E. osmanthum (Godseffianum), now over two years old, two are broad-leaved like Cattleyas, and the third narrow-leaved and with a pear-shaped bulb, like the Epidendrum parent.

A year ago, I had seed from the intercrossing of two interesting varieties of Dendrobium Phalænopsis, both parents having a purple, bearded line on each petal, the bearding being like that within the lip of the flower. Two plants were obtained from the seed, one of which is still alive and vigorous, and among the mixed seedlings of that year are several more exactly like this little D. Phalænopsis. If the parental peculiarity can be intensified, it will give a variety analogous to D. nobile Cooksonianum.

THEODORE L. MEAD.

Oviedo, Florida, U.S.A.
February 1st, 1899.

HYBRIDISATION AND NATURAL HYBRIDS.

IN the issue of *Le Jardin* for February 20th (p. 54) we notice some remarks by M. G. T. Grignan on the above subject. Speaking of certain hybrids which are only of second-rate value from a floricultural standpoint, and are therefore not exhibited, and sometimes remain unrecorded, he observes that they sometimes have a special interest, as affording valuable indications of the origin of certain natural hybrids. He then proceeds as follows:—

"M. Bleu, who has produced a large number of seedlings, possesses some unpublished ones. One of these, derived from Cypripedium insigne Chantini and C. concolor Regnieri, is very curious. The influence of the second parent is only slightly apparent in the leaves; as for the flowers, they altogether resemble a form of C. insigne, but of the section montanum, not the variety Chantini. Judging by this hybrid, M. Bleu thinks that C. insigne montanum may not be a geographical form, as has been supposed, but a veritable hybrid derived from C. insigne and one of the numerous forms of C. concolor or of C. Godefroyæ."

Alas! how easy it is to jump at conclusions from imperfect data! In the first place we have no evidence that C. insigne grows either with C. concolor or C. Godefroyæ, and in the second the hybrid between C. insigne and C. concolor, known as C. × Orion, has been raised by Messrs. Veitch, and bears no near resemblance to C. insigne montanum, being, in fact, fairly intermediate between its parents, and these facts quite outweigh the curious but not by any means unique fact above recorded: indeed, it is pertinent to ask, what is the nature of the slight influence seen in the leaves?

As to the so-called C. insigne montanum, we think the last name superfluous. It is only since the species has been imported in quantity that we have realised its great variability. Previously our knowledge of it was derived from a few isolated forms which were introduced and propagated by division. The wonder is that it was not introduced in quantity long before. As to its being a hybrid, we consider that there is not a tittle of evidence.

CORYANTHES MACRANTHA.

This superb Orchid is abundant in Sante Comapan, and can you guess in what company? We think the reader will be troubled to guess. At the summit of trees, above those which bend over a ravine or rivulet, there are nests inhabited by very large ants. The diameter of these trees is often from half to one metre. Their upper part is usually covered with Coryanthes, and beside them Bromeliaceous plants are found, with sometimes an Epidendrum. Between the two may be seen pendent spikes of Coryanthes, with from two to four pure yellow flowers, mixed here and there with red-spotted varieties with various sized spots. Nothing can be more remarkable than the conformation of the lip; at first sight it might be mistaken for a Cypripedium. In this sort of pitcher or slipper a sweet-tasting liquid is contained, probably much appreciated by the epicures among the little colonies of ants established in the neighbourhood; it is a delicate sweetmeat factory close at hand. Unfortunately—doubly

unfortunately, for those who audaciously endeavour to remove a plant from the spot where it grows—the ants have worse stings than our wasps. For the rest, neither the explorer nor his assistants dream of climbing the tree to obtain the elegant ornament which decorates it; the ape-like agility of the wild Indian is required for such an enterprise to be successful. There is no other means of obtaining possession of the desired plant than by levelling the tree with a hatchet, but the task is neither free from difficulties nor danger. At each shake, which disturbs the tree, the ants become furious, one might almost imagine that they are aware that their hive or colony is endangered; they rush infuriated and exasperated upon the daring individual who ventures to disturb their rest. Then an extraordinary fight begins; the besieger, attacked on all sides by little creatures, whose bites, though not deep, are nevertheless very painful, gets wild, ejaculates at each fresh sting one or other of those energetic oaths of which the Spanish language offers such an ample and rich store, then either flies from his little tormentor in despair, or plies his axe like a madman, in order to hasten the fall of the tree and to put an end to his miseries. When once the tree is felled he is obliged to work very quickly, as it is against the whole colony that he has now to defend himself. A final blow with the hatchet separates from the summit the branch bearing the nest, a lasso is firmly fixed on it, then the whole is dragged towards a neighbouring stream, where it is left for some hours, with the nest and the horrible colony that inhabits it. When it is supposed that the prolonged submersion has put an end to these wretched little animals, it only remains to detach the plants by the aid of a pruning knife and—the work is over. Unfortunately, it seems as if close connection joins the Coryanthes to the nest, and perhaps to the ants, like Castor and Pollux of old, for the plant once drawn from its natural habitat can no longer thrive, in spite of the help of the old abandoned nest; so that we cannot help concluding that the ants are necessary to its normal development, but I should hardly be favourable to adding the new vermin to those already imported. I leave the explanation of the phenomena to the Darwinians, and content myself with stating that the cultivation of this curious Orchid has but rarely succeeded in our conservatories. B. Roezl, in *Le Belgique Horticole*, 1883, pp. 171-2.

[A very graphic account, certainly, but it is now well known that the liquid which is collected in the pitcher or slipper is not nectar, being in fact practically tasteless, and that it serves another purpose. There is also good ground for believing that these plants can be grown in the absence of the ants, if properly treated.—Ed.]

ORCHIDS AT CLAREGATE, WYLDE GREEN, BIRMINGHAM.

THIS is one of the oldest collections in the Midlands, and long may we have its most esteemed owner, A. W. Wills, Esq., J.P., to preside over it. I will also echo the same wish respecting his able and genial gardener, Mr. A. Jenkins. It is always a real pleasure to see master and man working together with one common object in view, and that the welfare of their garden in general, and—what specially interests us here—their Orchids in particular, and taking an equally keen interest in them.

It is not surprising, therefore, especially when we take the age of the collection into consideration, that it contains so many fine specimens. The Cypripedium House contains a well grown assortment of species and hybrids. We observed a splendid specimen plant of C. Rothschildianum bearing two enormously strong flower spikes, each with four flowers; also a grand plant of C. Druryi, just producing its flower spikes. Others in bloom at this somewhat dull season were a fine batch of C. × Leeanum superbum, C. × Lathamianum inversum, C. Chamberlainianum, a particularly bright variety, C. tonsum, C. × Measuresianum, C. × Thetis, C. Boxallii, a grand form, C. callosum, C. × Sedeni candidulum, C. Exul, &c. Grand specimens were also noted, in robust health, of C. philippinense (Roebelenianum), C. × grande, C. Spicerianum, C. × Dominianum, C. × Harrisianum, C. longifolium, and also a nice plant with spikes of Phaius Sanderianus. Of course, to make the modern house of Cypripediums complete, there are also the indispensable number of young hybrids coming along in their various stages of growth, one or two of which were already of flowering size, viz., C. × Deedmanianum and C. × fascinator nobilior.

Passing from here through a rockwork fernery we enter a house mainly devoted during the growing season to Dendrobiums, although, at the present time, these are necessarily somewhat distributed in the various houses. This department contains also many of the warm growing Lælias, such as L. superbiens, a fine specimen of which had two lovely spikes of bloom. Among others were fine plants of L. tenebrosa, L. anceps Sanderiana, L. Boothiana (lobata), Cœlogyne Dayana grandis, Oncidium splendidum, and Dendrobiums of various sorts. We observed also a fine healthy plant of Mormodes luxatum eburneum, of which a portrait appeared in the *Orchid Review* for February, 1897 (page 49), where Mr. Wills himself describes the treatment given. It has now two strong leads in the place of one.

Next we enter the Cattleya house, where, in addition to the usual inmates of this department not yet in flower, we observed a good show of C. Trianæ in bloom, some of which were extremely fine varieties. It would, perhaps, be wrong to say that certain well-known varieties were really here, because I think that for this to be absolutely true such must have come from the

original plants themselves; yet I maintain that some of the varieties noted in bloom, were equal, if not superior, to some that I have seen under such names, as C. T. delicata, C. T. bogotensis, C. T. incarnata, C. T. Colombio, and C. T. Corningii.

The Cool house here is rather a novel structure, and one which I think could be imitated with advantage in particularly bleak or dry localities. It is simply a house underground. From the outside no part is visible but the roof glass, which is slightly raised above the ground level; side ventilation being obtained by means of a channel and drain pipes let in through the sides of the walls. The side and centre stages are, of course, raised up as high as they can conveniently be to the roof, so that the plants may enjoy the light. On descending the flight of steps and opening the door, which is frequently used also as a ventilator—the top lights being hardly ever opened—it is remarkable how cool and moist this house feels, and that it suits the plants they speak for themselves. Here we saw Maxillaria Sanderiana, fine large specimens, producing quantities of spikes, and also grand examples of M. grandiflora, Ada aurantiaca with about two dozen leads, Masdevallia macrura, M. bella, M. Houtteana, Restrepia antennifera, Oncidium superbiens, O. macranthum, O. lamelligerum, one spike of which carried over fifty blossoms. Odontoglossum crispum, very fine O. triumphans, one bulb having fourteen fine flowers, O. maculatum, one bulb of which produced three flower spikes, and O. Pescatorei, Cochlioda Noetzliana, C. vulcanica, and C. rosea. And what rather surprised me was that this is also where Vanda Amesiana and V. Kimballiana are found to do best, and if removed begin to go back. They have certainly grown well, one spike, the blooms which I saw and counted, numbered thirty-six.

In this sunken house there is a partition, so that one department may be kept slightly warmer than the other, and in the warmer half are to be seen fine plants of Lælia harpophylla, L. cinnabarina, L. autumnalis, L. majalis, and L. albida with eighteen spikes, Cœlogyne cristata alba with fifty spikes, Miltonia spectabilis, M. s. Moreliana, Sophronitis grandiflora, Odontoglossum citrosmum, and Masdevallia Shuttleworthii.

A rather interesting feature to be seen here is various Dendrobiums growing on the skulls of animals. A plant of D. pulchellum, for instance, so completely monopolising one—that of a dog—that but little of it could be seen, while a plant of D. Parishii seemed decidedly happy in possession of another—apparently that of a sheep—sending its roots in and out and round as though evidently relishing the object. At no distant date I rather suspect that the cow will be represented, for a fine specimen skull was observed carefully preserved in the potting shed, awaiting no doubt a suitable occupant.

H. A. B.

ANGRÆCUM ELLISII.

ANGRÆCUM ELLISII, depicted in the accompanying illustration, is one of the finest species in the genus, and for many years was extremely rare in cultivation. It is a native of Madagascar, and is said to have been originally discovered about the year 1854, by the Rev. W. Ellis, during his first missionary journey there. It was found growing on the trunks of large trees on the outskirts of the forest, sometimes mingled with aroids, ferns,

FIG. 9. ANGRÆCUM ELLISII.

and other plants. On returning from his second journey he brought home three living plants, and when his collection was broken up one was acquired by Mr. J. Day, of Tottenham, and the other by Mr. E. Salt, of Manchester, the third plant having previously died. The earliest record of it seems to be in the fourth edition of *Williams' Orchid Growers' Manual*, published in 1871 (p. 87), but in the following year it was described by Reichenbach

from materials supplied by Mr. Day (*Flora*, lv., p. 278). From this self-same original plant it was also figured in the *Gardeners' Chronicle* (1875, iii., pp. 277, 278, fig. 54) and in the *Floral Magazine* (1875, t. 191). It was re-imported by Messrs. James Veitch and Sons, in 1879-80, through their collector, Curtis, who found it growing on the margins of lakes and swamps in partially exposed places in north-east Madagascar, and later by other firms, so that it is now more frequently met with in collections than formerly. The leaves sometimes reach as much as ten inches long, and the arching racemes as much as two feet, and bear from eighteen to twenty-four flowers, which are pure white and very fragrant, the spur being about six inches long and light cinnamon in colour. The shape of the flowers is well shown in the illustration. It succeeds well in the East Indian house treated like Aërides and Vandas, and with proper care will thrive for years. It is occasionally confused with A. articulatum, Rchb. f., which probably arose from an importation of the latter having been sold for it in 1881. A. articulatum, which also was introduced by the Rev. W. Ellis, is a smaller plant with shorter leaves and smaller flowers.

HYBRIDISING DENDROBIUM WARDIANUM.

DENDROBIUM Wardianum appears to be a bad seed-bearer. Mr. Isaac Carr, of Twerton-on-Avon, writes:—"Is there any secret in successfully fertilising Dendrobium Wardianum? For the last two years I have placed pollen on numberless flowers of this Dendrobe. I have tried various times of day, and various atmospheric conditions. I have used pollen of varying freshness, on flowers in varying stages, from the newly opened to the faded. The one result I have obtained is that the flower fades, but drops off in two or three days." Mr. Eichel also wrote:—"D. Wardianum is another bad seed-parent; in fact, very difficult to fertilise. Only one cross has so far been recorded where D. Wardianum acted as the seed-bearer, namely D. × Lutwychianum" (*Orch. Rev.* v., p. 83). We find, however, that it is recorded as the seed-parent also of D. × micans and D. × murrhiniacum (in the record of the latter at page 227 of our first volume, the parentage is accidentally reversed), so that three hybrids, at least, appear to have been successfully raised from it as the seed-parent. We shall be glad if other correspondents will give us their views on this matter. In view of the difficulty, however, it seems advisable either to use D. Wardianum as the pollen parent, or to make the reversed cross also at the same time, which would give two chances of obtaining a capsule of hybrid seeds.

ORCHIDS OF THE MALAY PENINSULA.

A LONG and interesting paper on the Orchids of the Malay Peninsula, by Henry Ridley, M.A., F.L.S., Director of the Gardens and Forest Department, Singapore, appears in the thirty-second volume of the *Journal of the Linnean Society*, from which we extract the following remarks relating to the natural conditions under which they grow.

The greater part of the Malay Peninsula is covered with dense jungle, which extends to the tops of nearly all the hills, though the trees at about 4,000 feet elevation are more stunted. In the low country forest, epiphytic Orchids are comparatively rare, and when they occur, are usually situated on the upper branches of the loftiest trees, so as to be nearly inaccessible. Terrestial Orchids, chiefly Neottieæ, some of which are saprophytic, occur scattered all through the forests—usually sparingly—and, owing to their dull or brown colouring, are often very inconspicuous. The Mangrove swamps and tidal river banks are often very rich in epiphytic species, which, sometimes, thickly cover the branches of the trees. In the drier and more sunny spots along the sea-coast, and the more open rivers, species of Thrixspermum, Renanthera, and Aërides, scramble over the rocks in thick masses. The open country where the forests have disappeared, produces but few species; Spathoglottis plicata, Eulophia, Geodorum, Bromheadia palustris, Habenaria lacertifera, occur in dry, grassy spots. Liparis paradoxa, Thrixpermum lilacinum, and Vanda Hookeriana, grow in the grassy swamps. A few species are abundant in the orchards and gardens of the villages; such are Dendrobium crumenatum, D. pumilum, D. Leonis, D. micranthum, Cirrhopetalum vaginatum, Bulbophyllum clandestinum, Dendrocolla Trichoglottis, D. filiformis, and Acriopsis javanica.

In many of the hill forests, Orchids become more abundant; as one ascends, the jungle becomes more open; and on the exposed, rocky slopes, called Padang Batu (stone fields) by the natives, a great variety can often be found. And in these places it is noticeable that species which in the low country are only to be found on the tops of the loftiest trees, are here to be seen growing on the ground or quite low down on the stems and branches of the bushes and small trees. Thus, on Kedah Peak, at about 3,000 feet elevation, the ground in some places is thickly carpeted with plants of Bulbophyllum, Cœlogyne, Dendrobium, Platyclinis, Eria, etc., in such a manner that one is up to one's waist in them.

A very different Orchid flora is that of the limestone hills, which are scattered about all over the Peninsula, but which chiefly run in a broken line, north and south. These hills are usually mere isolated masses of crystalline limestone, of no great size or altitude, often many miles apart,

but apparently forming lines parallel to the main chain of granite mountains which forms the backbone of the Peninsula. Orchids are here very plentiful, growing both on the weathered pinnacles of rock and on the small trees and shrubs growing in the crevices. The rocks of the Lankawi Islands, which have produced so many peculiar plants of all orders, are also of limestone.

The rainfall being very heavy, and spread over the whole year, there is no distinction of wet and dry seasons; this is probably the reason why there is no special flowering season for most Orchids. The greater part of the species flower at longer or shorter intervals throughout the year, though, perhaps, more may be found in bloom in the first three months. Calanthe curculigoides and Grammatophyllum speciosum are exceptions, the former flowering regularly in November, the latter in August or September. Saprophytic plants appear generally when hot and dry weather follows heavy rains; and this applies not only to Orchids, such as Lecanorchis and Didymoplexis, but also to the Burmanniaceæ and saprophytes of other orders; so that when one or other of these is found, the others may be expected to be in flower as well; but merely clearing a track through the jungle will often cause these plants to appear in a few weeks, whatever be the weather. A certain number of species flower irregularly throughout the year, and are indeed rarely out of flower. Others, of which Dendrobium crumenatum is the best known, invariably produce their flowers simultaneously on certain days. The special day holds good throughout the district, almost every plant bursts into blossom, and may remain in flower but a few hours, sometimes a whole day; after which the flowers wither and no more appear till the next flowering day. Even plants brought from as far north as Siam to Singapore conform immediately to the Singapore day, and do not flower on that of their native place. Observation seems to show no correlation with the weather; though if there is very heavy rain on the day that the flowers are ready to open, they usually delay it till it is over. Besides Dendrobium crumenatum, D. teres, D. Kunstleri, D. criniferum and other species of the Desmotrichum section of Dendrobium, Bulbophyllum concinnum, B. macranthum, Eria floribunda, E. densa, etc., behave in this way. The advantages for purposes of fertilization, especially in the case of plants producing flowers singly, is obvious; for were these to flower one at a time, as their blossoms are but short-lived, they would run a great risk of not being fertilized at all. But what causes the plants to break out into bloom on a definite day is not at all clear.

There is a considerable variation in the method of opening of the flowers. In some, all the flowers in the raceme open simultaneously, as in Cirrhopetalum. Others produce a raceme which, growing and elongating

slowly, bears each day three or four fully open flowers only; these, unless fertilized, fall the next day; before or as soon as the next three or four open. A raceme of Grammatophyllum, developing in this manner, will last for a month and a half. The intervals of time between the opening of the two adjacent flowers may be thus from one to several days; but they are longest in the Fornicariæ, Thrixperma, and Bulbophylla of the section Intervallatæ. Here the rachis grows very slowly, and the flowers open one by one, with intervals, from about ten days (Dendrocolla filiformis) to more than a month (Bulbophyllum Stella), so that a raceme may take nearly a year before it has come to the last flower.

CALENDAR OF OPERATIONS FOR MARCH.

By H. A. BURBERRY,. Orchid Specialist, King's Heath, Birmingham.

THE following figures are intended as a guide to what the thermometer should read during the present month, always allowing a rise of a few degrees when the sun shines:—

COOL HOUSE.—Day, about 60°; night, 50°.

INTERMEDIATE AND CATTLEYA HOUSE. — Day, about 65°; night, 55° to 60°.

EAST INDIAN HOUSE.—Day, about 70°; night, 60° to 65°.

Never force the temperatures higher by artificial heat, but a rise of a few degrees when the sun shines is not only unavoidable, but beneficial to the plants in all departments. Care should now be taken to check the fires in the mornings as much as possible if there is any prospect of the sun making its appearance later in the day, or the sun and fire heat together will make an over-heated and parched atmosphere, which is not only injurious to the plants but promotes the growth and propagation of troublesome insects, as yellow and black thrips and red spider.

Unless the Cool house has a northern aspect and therefore unexposed to the sun, it will now require to be shaded more or less during bright weather. The shading at this early season should be let down only when the sun is shining, and removed at all other times. The Intermediate, Cattleya, and East Indian houses will also now generally require to be more or less shaded from bright sunshine, too much of which at this early season, when the plants are probably somewhat weak, has often a most disastrous effect upon them. Much unnecessary trouble may thus be averted. I specially refer to the premature loss of foliage, the shrivelling of the psendobulbs, and sometimes the loss of a few plants. These are almost sure to occur at this season, to a greater or less extent, unless due

care be taken to guard against them. As an additional safeguard, I would advise that a considerable amount of moisture be also distributed in all departments.

Syringing overhead with tepid water may now again commence, of course at present doing it only as soon as the temperature is up in the mornings. This will greatly refresh and invigorate the plants, keeping them, so to speak, sufficiently moist, without causing the compost in which they are planted to become over wet at this early season, the latter being very injurious. No alarm need be experienced about the water lodging in the axils of the leaves or in the new growths, as no damping off will take place if the ventilation is properly attended to. Damping off and such like diseases take place only when there is a stagnant atmosphere, caused by an excess of moisture with insufficient ventilation to carry off the same. Such an atmosphere is impure and unwholesome, and favours disease. A solitary growth will, of course, sometimes go wrong, even under the most approved cultural conditions. It is so in the whole vegetable kingdom. And what I wish to point out is, that failures of this kind occur with equal, if not with greater, frequenty when the greatest precautions are taken against the lodgement of water in the breaks than they do when the plants are deliberately syringed over head.

While on the subject of damping and ventilation, I may say that the latter should still be done with a considerable amount of care, and more especially so in the Intermediate and Warm departments. A good deal of harm may result from a too liberal use of the top ventilators at this particular season, when cold searching east winds are prevalent. It is the bottom ventilators which should be mostly worked at present, giving only a chink on top when it seems absolutely necessary for the prevention of an overheated atmosphere. Apart from these trying cold winds, and especially when the outside weather is moist and mild, as it frequently is, there is a great advantage gained by keeping a chink on the top almost continually, and particularly on houses which are very tightly glazed, for it conduces to a continual, though steady, circulation of fresh air.

The best season for re-potting is now setting in, and many are the kinds that may be either re-potted, or top-dressed, as the case may demand. Regarding this important work, it is highly advisable that a few vital points should be kept carefully in view, such as never re-potting any plant unless it is, firstly, necessary, and secondly, at the right stage of growth for the operation to have the best results. Also to use clean pots and drainage. and the best procurable fibrous peat and fresh sphagrum moss. And again. guard against potting into over large receptacles, and be as careful as possible in turning out the plants of removing the old materials from them.

and in replacing them in their new pots, pans, or baskets. When re-potting has become imperative is either when the plant has actually overgrown its pot, or when the compost has become obviously worn out, and in a rapidly decomposing condition, through which the air and water cannot pass freely. The surface of the compost of such a plant will present an unmistakable appearance of what is going on beneath it; it will not only look dead and heavy, but growth of a nasty green mossy or slimy appearance will take place, and the plant will consequently look more and more miserable and forlorn, and unless repotted again into good fresh compost will undoubtedly go back.

It cannot be said with certainty how long a plant will safely stand after being repotted, as so much depends upon the quality of the new compost, the manner in which the work is performed, and in the amount of water afterwards given. Still it should reasonably be expected to last without being again disturbed from one to three years. Probably many of the Lælias, Cattleyas, Cypripediums, Epidendrums, Odontoglossums, Oncidiums, and such like kinds may go three years and even longer. Whilst many of the Dendrobiums, together with Mormodes, Castasetums, Calanthes, Thunias, and a few others are better if repotted at less intervals, ranging from one to two years, or occasionally three.

Th right time for an Orchid to be repotted varies according to the stage of its growth. It should almost invariably be done just as the plant is about to start into fresh growth, or in other words when the new growth is seen bursting forth from the base of the last formed psendobulb. The roots are then just commencing to become active, and will soon become re-established in the new compost. Many are the plants that will shortly present such new growth. For instance, we may now look through our Cool house, and find among others many of the Odontoglossum crispum, O. triumphans, O. luteopurpureum, and O. nebulosum in such a condition; also various species of the cool growing Oncidiums, and various others. In the Cattleya house no less an important and useful species than C. Trianæ will be ripe for re-potting, also C. Gaskelliana, Warscewiczii, some few Lælias, and others, while the intermediate growing kinds in this condition are too numerous to mention. Sufficient, however, have been mentioned to illustrate my meaning. This rule for re-potting holds good, I believe, without any exception if happening at this or any early period of the growing season, even though the plants still have to bloom, such as the Anguloas and the Lycastes for instance. These, as we know, start their new growths and flower buds simultaneously, and are thus too far advanced to re-pot after the flowers are past. And again, should any of the Cattleyas start to root profusely or to make new growth before they bloom, as C. Mossiæ and C. Mendelii will sometimes do, they are really better if

repotted before blooming then otherwise, but not unless the roots do begin to push freely.

As before mentioned, the pots should always be perfectly clean, also the crocks. I prefer after placing a large piece or two of crock over the hole, to use all the other drainage broken up very small, as the compost seems to last longer in a firmer and sweeter condition if so drained. All plants not deemed necessary to repot should be top-dressed with fresh sphagnum moss as they are starting away to grow. It not only gives them a much nicer appearance, but the sweet moss about them really does them a great deal of good, being an encouragement to renewed root action. On examination it can usually be pretty quickly decided whether top-dressing only is requisite or not, for although the surface of the old compost may appear more or less dead and exhausted, it is soon apparent on its removal whether that which is beneath is in any degree sound and porous and capable of doing service for another season or not. One accustomed to Orchids can easily tell this at sight before handling the plants, as the compost, although looking old, shows unmistakeable signs of whether the air and water can pass through or not.

Thunias are now just starting to grow, and should be potted with one or more stems, as desired, in pots, well drained, and in a compost rather richer than employed for most Orchids. I like a little fibrous yellow loam mixed with an equal portion of lumpy peat, and sufficient coarse sand to keep the whole open. This should be pressed down very firmly. A very little water will be required for some time at the root, but the pots should be placed in a very sunny position, such as a shelf near the glass, and the plants syringed occasionally, which will be all the watering they need have until rooted. The best temperature to grow them in is intermediate, or if one possess a proper Mexican house no better place could be provided. Exactly such a position best suits the Pleiones, which are now growing apace, and should be syringed frequently and kept regularly moist at the root.

The mention of the Mexican house reminds me of what a wonderfully useful one it is, and I would advise all lovers of Orchids not having one already to provide one by hook or by crook. They may easily do so, if only by petitioning off a portion of an already existing structure. What is meant by a Mexican house is simply one in which no shade whatever is used, not even during the hottest time of the summer, which means, of course, that someone must be close at hand always, to put on very large supplies of air, and to frequently distribute abundant supplies of moisture, otherwise the plants grown therein may be very quickly baked up and spoilt, in which case the owner would be better without such a house. Still, if a Mexican house is properly handled, it is wonderful how hard and perfectly healthy are the plants so cultivated. Lælia anceps, and

other short-bulbed Mexican Lælias. have leaves and bulbs of wonderful solidity, and are a real pleasure to grow, while there are many other little oddities which, from some cause or another fail to grow well anywhere else, do much better when so treated. I will mention a few of them which I have found from experience liable to deteriorate under ordinary cultivation, but show signs of improvement when taken there—what then would strong, newly-imported plants be likely to do if subjected to such treatment from the first?—Vanda teres and V. Hookeriana, Lælia Digbyana and L. glauca, Burlingtonias, Mormodes and Catasetums, Cattleyas of the dolosa section, Comparettias, Cyrtopodiums, Schomburgkias, Dendrobium Cambridgeanum and D. albosanguineum, also Oncidium Londesboroughianum and O. splendidum. There is still plenty of room for further experiments in this direction with unsatisfactory growing or flowering kinds, and I believe that, in most instances, a good lesson would result—that is, of course, supposing it was done with a due amount of caution.

Dendrobiums which have been treated properly during the resting season should now be making a grand show of bloom. After having bloomed, of course, the new growth will commence to grow away rather rapidly. This, however, should not be unduly hurried, but allowed to come away gradually in a moderately warm temperature. What re-potting or top-dressing is necessary should be performed immediately after blooming. Pans and baskets are preferable, and a position suspended from the roof-glass of the stove is one which it is hard to beat. There are now a very large number of beautiful hybrid Dendrobiums in cultivation, which are found to be exceedingly easy to cultivate if treated in a rational manner, as previously advised. All the while these plants are small, it is a simple matter to re-pan or re-basket every year, giving them fresh, sweet materials, which are highly appreciated by this class of Orchids.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

MEETING at the Coal Exchange, Manchester, 9th February, 1899. Present:—Messrs. Shorland Ball (in the chair), Thomas Statter, J. Leemann, H. Greenwood, J. Cypher, R. Johnson, and T. Mills (hon. sec.).

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed Cypripedium insigne Luciani, a wonderfully coloured flower, having the petals and pouch a clear dark yellow (much darker than we have hitherto seen it) and without any spots on the dorsal sepal. The flower was, however, rather small for an insigne (First-class Certificate): C. Wiertzianum (Rothschildianum × Lawrenceanum), a very fine flower, partaking pretty

equally of the characteristics of the parents, and with the dorsal sepal quite flat, a merit sadly conspicuous by its absence in so many of the Cypripedium crosses (First-class Certificate), and Dendrobium whitefieldense (derived from D. × Leechianum × nobile albiflorum (Award of Merit).

G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall (gr. Mr. Shill, showed a magnificent form of Dendrobium × Ainsworthii, which was awarded a First-class Certificate, and a yellow form of Cypripedium insigne.

John Leeman, Esq., Heaton Mersey (gr. Mr. Edge) showed Cattleya Trianae, West Bank House variety (Award of Merit), C. T. Chevalieriana (Award of Merit), C. quadricolor (chocoensis) alba (Award of Merit), Lælio-cattleya × Gottoiana (Award of Merit), Cypripedium × nitens superbum, C. × Creon, Dendrobium Wardianum candidum (Award of Merit), and Maxillaria Lindeniæ (Award of Merit). The same exhibitor also staged a very fine group of miscellaneous Orchids, consisting of the above and many other good things, for which he was awarded a Silver-gilt Medal.

H. Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Dendrobium × Cybele roseum (Award of Merit), D. nobile murrhiniacum (Award of Merit), and a striking group of valuable varieties of Dendrobes, which received a Vote of Thanks.

Mrs. Briggs Bury, Accrington (gr. Mr. Wilkinson), showed Cypripedium × Beckmanni, much larger and better than when exhibited a year ago, and described on page 25 of our last volume. The flower appears to show more of the pollen parent than on the last occasion, and it is difficult to attribute the width of the petals to any parentage but C. bellatulum. It is a wonderful flower of the very highest class, and was awarded a First-class Certificate. The same exhibitor also showed C. insigne Harefield Hall Variety (First-class Certificate), Odontoglossum crispum, a very good form, with large, narrow spots on the sepals and petals, but slightly past its best (Award of Merit), and a hybrid Odontoglossum, very much in the way of O. × Andersonianum Ruckerianum, but of a very distinct dark yellow colour (First-class Certificate).

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed Cypripedium × Lathamianum aureum (Award of Merit), C. × L. inversum (Award of Merit), and Dendrobium atroviolaceum.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Odontoglossum crispum "Jeanette," a beautiful large, round flower with the petals and sepals almost covered with small, bright red spots (First-class Certificate), Cattleya Trianæ Imperator, with magnificent dark lip, but we have seen the flower larger (Award of Merit), and Cypripedium × Prewettii.

W. Duckworth, Esq., Shaw Hall, Flixton (gr. Mr. Tindal), showed Dendrobium × Schneiderianum.

C. J. Crosfield, Esq., Sefton Park, Liverpool, showed Cattleya Trianæ and Odontoglossum crispum.

Mr. James Cypher, Cheltenham, showed Lælia anceps Schrœderiana, a very large flower of this superb variety (First-class Certificate), and a miscellaneous group, including the above, Dendrobium × Schneiderianum, D. × Cassiope, Odontoglossum blandum, Masdevallia Schrœderiana, the finest form of Cypripedium × Harrisianum, and many other good things, for which a Silver Medal was awarded.

Mr. John Robson, Altrincham, showed a very fine specimen of Dendrobium × Dominianum, which was awarded a Cultural Certificate.

Messrs. Stanley Mobbs and Ashton, Southgate, showed Paphiopedilum × Deedmanianum (Spicerianum × Chamberlainianum).

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE second meeting of the year was held at the Drill Hall, James Street, Westminster, on January 31st, when there was a very fair display of Orchids, considering the season, and several awards were made. The members of the Committee present were:—H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien (hon. sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. J. Chapman, S. Courtauld, De B. Crawshay, J. Douglas, J. T. Gabriel, E. Hill, J. Jaques, H. Little, F. Mason, H. M. Pollett, F. J. Thorne, C. Winn, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. W. H. White), exhibited the remarkable Masdevallia × Curlei (macrura ♀ × tovarensis ♂), which received an Award of Merit.

F. Knight, Esq., Thundersley House, Thundersley, Essex (gr. Mr. Marston), staged a very pretty group of Cattleya Trianæ, including both dark and light varieties, very well grown and flowered. A Silver Banksian Medal was awarded.

H. F. Symonds, Esq., Woodthorpe, Beckenham (gr. Mr. Day), also received a Silver Banksian Medal for a very pretty group, including some fine specimens of Dendrobium infundibulum Jamesianum, Cœlogyne cristata, Lycaste Skinneri alba, Odontoglossum crispum, O. × mulus, O. × Andersonianum, a good form of Cypripedium × Sallieri, and others.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed a fine form of Odontoglossum crispum and Lælia anceps, Crawshay's variety, the latter now better developed than when exhibited a year ago, being awarded a First-class Certificate.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent two very fine forms of Cattleya Trianæ, one called var. E. Ashworth,

a fine white, with a brilliant purple-crimson front lobe to the lip, receiving an Award of Merit.

J. Gurney Fowler, Esq., Glebelands, S. Woodford, Essex (gr. Mr. Davis), showed a collection of cut varieties of Lælia anceps, together with a good Cypripedium × Chapmanii, C. × Chamberlaino-Leeanum, another pretty variety called C. × Miss Louisa Fowler (Chamberlainianum ♀ × C. insigne ♂), to which an Award of Merit was given. The dorsal sepal is light green, with lines of purple blotches, becoming smaller towards the margin, the petals undulate, tinged and veined with purple, the lip light rose, and the staminode cushion-shaped and yellow.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), showed a flower of Calanthe × Oakwood Ruby, a brilliant dark rose-purple variety with a white eye. Its pedigree is described as C. vestita rubro-oculata × rosea, yielding C. × Veitchii Oakwood var., which was crossed with the pollen of C. vestita rubro-oculata, yielding C. × Alexandri, which was again crossed with C. v. rubro-oculata, and the progeny again seeded from for several years, the darkest form being selected on each occasion.

Philip Crowley, Esq., Waddon House, Croydon (gr. Mr. Harris), showed a delicate peach-coloured variety of Cattleya Trianæ.

Mr. W. Driver, gr., Longford House, Minchinhampton, sent Cypripedium villosum.

H. S. Leon, Esq., Bletchley Park, Bletchley (gr. Mr. Hislop), showed Cattleya × Preciosa Hislopii (Lawrenceana × Lueddemanniana Ernesti), a promising rose-coloured variety, rather darker on the front lobe of the lip.

Messrs. Linden, L'Horticulture Internationale, Brussels, showed the remarkable Zygobatemannia × Mastersii, described at page 46 of our last issue, a handsomely blotched form of Odontoglossum crispum, O. × Andersonianum Schusterianum, a bright yellow form marked and spotted with reddish brown, the yellow Cypripedium insigne Luciani, C. × Wiertzianum (Rothschildianum × Lawrenceanum), and Cattleya Trianæ Lindeni, a large richly-coloured variety. The two latter each received an Award of Merit.

Mr. James Douglas, Edenside, Great Bookham, received a Silver Banksian Medal for a fine group of cut blooms, including Cœlogyne cristata, some fine forms of Lælia anceps, the pretty little L. × Brysa, Cypripedium Boxallii, hybrid Calanthes, &c.

Messrs. Stanley Mobbs & Ashton, Chase Side, Southgate, received a Botanical Certificate for Epidendrum umbellatum, a West Indian species with green flowers, which was introduced to cultivation as long ago as 1795.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed Cypripedium insigne Sanderæ, and Phalænopsis × Wiganiæ, said to be a hybrid between P. Schilleriana and P. Stuartiana. The flowers were white

with some rose-pink in the centre, and some rosy spots on the lateral sepals and side lobes of the lip.

At the meeting held on February 14th the display of Orchids was exceptionally fine—probably the best February show that the Drill Hall has seen. The members of the Orchid Committee present were:—H. J. Veitch, Esq. (in the chair), and J. O'Brien (hon. sec.), E. Ashworth, H. J. Chapman, J. Colman, W. Cobb, S. Courtauld, De B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, H. Little, A. Outram, H. T. Pitt, W. H. Protheroe, C. Winn, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very beautiful group, to which a Silver-gilt Flora Medal was awarded. It contained half-a-dozen splendid plants of Cypripedium × Lawrebel, each bearing a twin-flowered scape, C. × conco-Lawre, several forms of C. × hirsuto-Sallieri, C. × Lathamianum, C. × Calypso, good forms of C. villosum, C. × Leeanum Albertianum, the beautiful Dendrobium × Juno, D. × Thalia, D. × dulce, some good forms of D. × chrysodiscus and D. × melanodiscus, D. × burfordiense, and D. × splendidissimum, a good plant of Epidendrum Endresii, an inflorescence of the purple E. paniculatum, the rare Australian Diuris maculata, Liparis longipes, Odontoglossum pulchellum, some good Masdevallias, and other showy Orchids. A good plant of Masdevallia × falcata with seven flowers received an Award of Merit, Catasetum discolor a Botanical Certificate, and a good Odontoglossum × Andersonianum a Cultural Commendation.

His Grace the Duke of Northumberland, Syon House, Brentford (gr. Mr. Wyethes), exhibited a well-fruited branch of Vanilla planifolia, together with dried fruits of the same grown at Syon last season. A Silver Knightian Medal and a Cultural Commendation were awarded by the Fruit and Vegetable Committee.

Sir Frederick Wigan, Bart,, Clare Lawn, East Sheen (gr. Mr. Young), exhibited Cattleya Trianæ Amy Wigan, a fine variety with a very feathered purple blotch at the apex of the petals and a very claret-crimson lip with very little yellow in the throat. A First-class Certificate was awarded.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a showy group, to which a Silver Flora Medal was given. It contained some distinct and very beautiful varieties of Cattleya Trianæ, some fine forms of Odontoglossum luteopurpureum, a delicate blush-white form of Lycaste Skinneri, &c.

F. Knight, Esq., Thundersley House, Thundersley, Essex (gr. Mr. Marston), received a Silver Banksian Medal for a good group of showy Orchids, including fine forms of Cattleya Trianæ, Oncidium varicosum Rogersii, and other showy Orchids of the season.

C. H. Feiling, Esq., Southgate House, Southgate (gr. Mr. Canham), also staged a pretty group, in which Cypripediums were very well represented. A Bronze Banksian Medal was awarded.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a very good well-flowered plant of Odontoglossum maculatum anceps, to which a Cultural Commendation was awarded.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received a Botanical Certificate for the pretty little Restrepia leopardina.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent a good plant of Masdevallia Schrœderiana with six flowers, Cypripedium × villoso-ænanthum, a large and handsome hybrid, most like C. œnanthum in the dorsal sepal, and elsewhere most like C. villosum, a ten-flowered raceme of Cymbidium grandiflorum, and a group of seven seedlings from Dendrobium × Dominianum × D. × Cassiope, showing considerable variation in colour, from rose to nearly white.

F. M. Burton, Esq., Highfield, Gainsborough, sent a very pretty orange-scarlet hybrid Epidendrum, derived from E. ibaguense and E. × O'Brienianum. It is described as E. × Burtoni on another page.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed good white and coloured forms of Lælia anceps, and Odontoglossum triumphans var. Mrs. De B. Crawshay, with bright yellow ground, and much less brown markings than usual.

H. J. Elwes, Esq., Colesborne, Andoversford, sent Bletia hyacinthina, and a pretty rose-coloured hybrid Calanthe derived from C. rosea and C. Regnieri Stevensii.

J. T. Gabriel, Esq., Palace Road, Streatham (gr. Mr. Ranson), sent a good well-coloured form of Cattleya Trianæ.

H. Harris, Esq., Bowdon Hill House, Chippenham (gr. Mr. Penton), showed Lælia anceps Schrœderiana and a good form of Cattleya Trianæ.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, showed the large and striking Cypripedium × Beckmanni.

The Rev F. Paynter, Guildford (gr. Mr. Cook), sent flowers of Dendrobium Phalænopsis hololeucum and a good form of Odontoglossum crispum.

Mr. Owen Thomas, Royal Gardens, Frogmore, showed a pretty light blush flower of Cattleya Trianæ.

Messrs. James Veitch and Sons, Royal Exotic Nursery, Chelsea, staged a very fine group, to which a Silver Flora Medal was given. It contained a number of beautiful Dendrobiums, as D. × Dominianum, some good D. × splendissimum, D. × dulce, D. × Cordelia and its yellow variety flavescens.

D. × Wardiano-japonicum, D. × euosmum and var. virginale, a fine plant of D. infundibulum, a fine Epiphronitis × Veitchii, examples of the valuable Epidendrum × elegantulum, Cypripedium × Enid (Spicerianum × bellatulum), and other showy hybrids, a good plant of Cymbidium × eburneo-Lowianum, Odontoglossum × mulus and other Odontoglossums, some good forms of Cattleya Trianæ, &c. The following gained an Award of Merit :—Phalænopsis × Mrs. J. H. Veitch (Lueddemanniana ♀ × Sanderiana ♂), a very pretty hybrid, most resembling the pollen parent in shape, and having pale yellow sepals and petals spotted with cinnamon, and a white lip with some red-brown spots about the crest ; Phaio-calanthe × Niobe (Phaius grandifolius ♀ × Calanthe × gigas ♂), most resembling the seed parent in habit, and the Calanthe in the flowers, which were flushed with rose-pink on the sepals, petals, and round the margin of the lip; and Cypripedium × Orion (insigne ♀ × concolor ♂), a charming yellow flower, bearing minute red dots, especially on the dorsal sepal, the upper third of which is white with some purple spots.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for a very pretty group, including some good specimens of Phalænopsis Schilleriana, Stuartiana, and Aphrodite, Angræcum sesquipedale, Dendrobium Lowii, Odontoglossum crispum roseum, O. × Andersonianum, some pretty forms of Cypripedium insigne, and other showy Orchids.

Messrs. Charlesworth & Co., Heaton, Bradford, received an Award of Merit for Lælio-cattleya × warnhamensis var. Hypatia (L. cinnaharina ♀ × C. Trianæ Normanii ♂), a charming yellow flower with the front lobe of the lip bright claret-crimson.

Messrs. B. S. Williams & Son, Upper Holloway, also received a Silver Banksian Medal for a large and effective group, containing Lælio-cattleya × intermedio-flava, some good forms of Cattleya Trianæ, Calanthe × bella, some good Phaius × Cooksoni, Lælia anceps Williamsii, Dendrobium Wardianum, some good Lycaste Skinneri, Cirrhopetalum picturatum, Odontoglossums, and over twenty fine Cypripediums.

Messrs. F. Sander & Co., St. Albans, sent three seedling Phaiuses, called P. × D. S. Brown (P. × amabilis × grandifolius), P. × orphanum (P. grandifolius × P. × Marthæ), and P. × Norman var. (Wallichii Mannii × tuberculosus).

Messrs. Fisher, Son, and Sibray, Royal Nurseries, Handsworth, sent two distinct varieties of Cypripedium insigne, which, however, had the appearance of not being fully developed. C. i. Eveline had a yellowish white ground, with the petals and markings on the dorsal sepal of a rosy purple shade, the latter organ being unusually narrow. The other was very similar in shape but more normal in colour.

ORCHID PORTRAITS.

COCHLIODA SANGUINEA (specimen plant).—*Garden*, Feb. 4, p. 78. with fig.

CYMBIDIUM HOOKERIANUM.—*Journ. of Hort.*, Feb. 9, p. 103, fig. 22.

CYPRIPEDIUM INSIGNE HAREFIELD HALL VAR.—*Journ. of Hort.*, Jan. 5, p. 5, fig 1.

CYPRIPEDIUM × MISS LOUISA FOWLER.—*Gard. Mag.*, Feb. 18, p. 88, with fig.

CYPRIPEDIUM × ORION.—*Journ. of Hort.*, Feb. 23, p. 151, fig. 31; *Gard. Mag.*, Feb. 25, p. 104, with fig.

DENDROBIUM CAPILLIPES, Rchb. f.—*Bot. Mag.*, t. 7639.

DENDROBIUM CREPIDATUM, LINDL.—*Neub. Gart.-Mag.*, Feb. 1, p. 49, t. 2 (reproduced from *Bot. Mag.*, t. 4993, but the source unacknowledged).

DENDROBIUM × JUNO.—*Gard. Chron.*, Feb. 25, p. 114, fig. 44.

EPIDENDRUM UMBELLATUM.—*Gard. Chron.*, Feb. 18, p. 98, fig. 39.

ODONTOGLOSSUM CRISPUM (specimen plant with thirteen spikes).—*Gard. Chron.*, Feb. 4., pp. 66, 67, fig. 22.

ODONTOGLOSSUM PESCATOREI (specimen plant).—*Gard. Chron.*, Feb. 4, pp. 66, 69., fig. 23.

PHAIUS × .—*Gard. Chron.*, Feb. 25, p. 115, fig. 45. A variety of P. × Norman.

PHALÆNOPSIS × MRS. J. H. VEITCH.—*Gard. Chron.*, Feb. 25, p. 114. fig. 43.

ZYGOBATEMANNIA × MASTERSII.—*Gard. Chron.*, Feb. 18, p. 99, fig. 40.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

J. F., Lasswade. The flowers of Cattleya Trianæ are rather below the average size, but may improve with culture. None of them are recognised as belonging to the specially named varieties; 1, however, is near var. plumosa: 2 and 4 near var. Penelope, while 3 and 5 are, we should consider as light coloured forms of the type. See notes at vol. iii., p. 114. where a classified list of over fifty varieties may be found.

J. W. M., Rawdon. This form of Cattleya Trianæ with spathulate petals and lip is remarkable; also the deep purple stain at the back of the column, but whether it will remain permanent is doubtful. As the flower is small and the plant is only semi-established, it may arise from weakness.

H. J. R., Florence. A cross between Paphiopedilum × Harrisianum and P. × œnanthum might yield such a flower. It is obviously undeveloped, and is probably a form of P. × Creon.

W. T. F., Brandon. Odontoglossum gloriosum. The Cattleya Trianæ is a particularly good form, large and well-shaped, with lilac-rose sepals and petals, and the lips of a brilliant dark ruby-purple, and the throat deep yellow. It is very near to the variety Atalanta.

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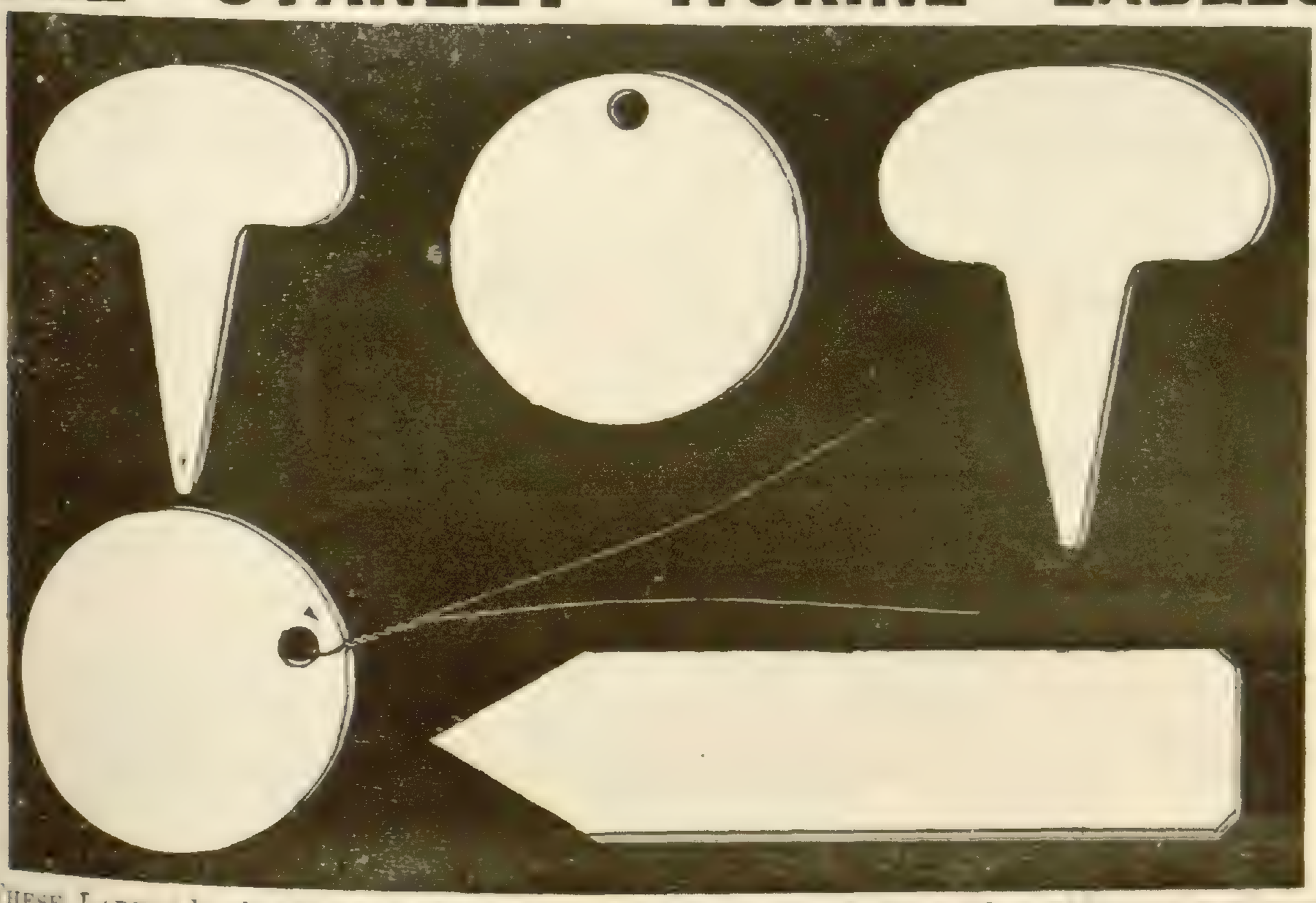

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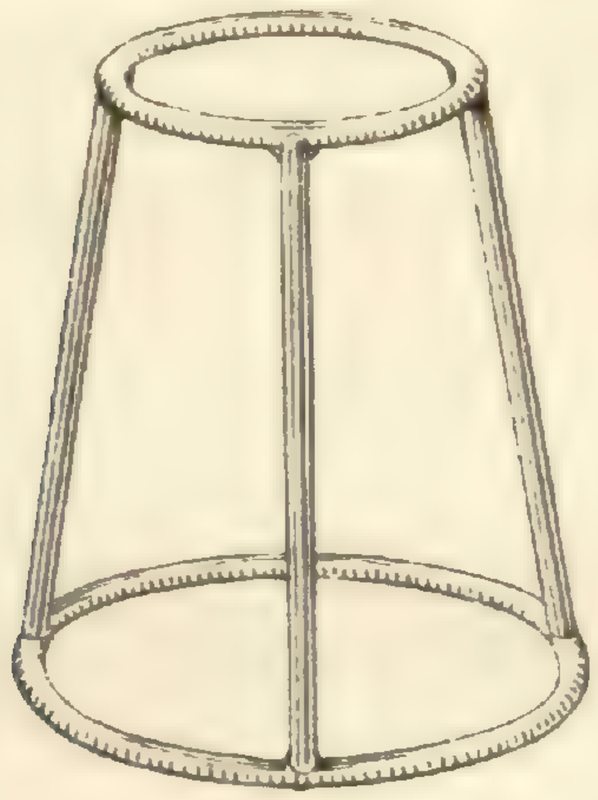

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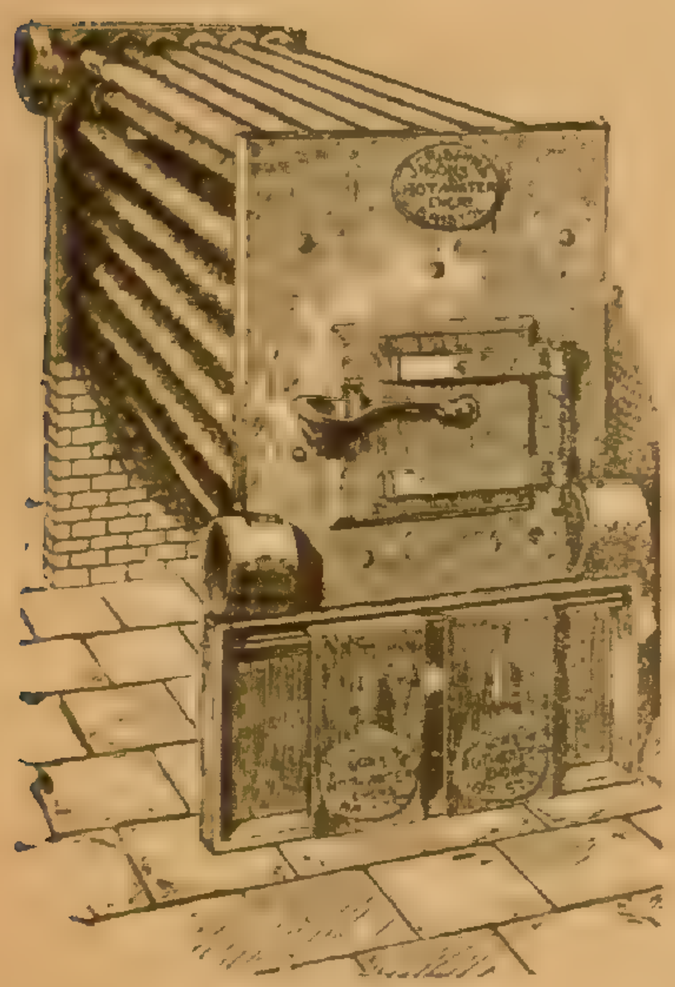

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *APRIL*, 1899. [No. 76.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on April 18th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Two meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, during April, on the 13th and 27th. The Orchid Committee meets at noon, and the exhibits are open to inspection from one o'clock until four.

Mr. G. Hansen, Scenic Tract, Berkeley, California, writes that he is preparing a new supplement to his work, *The Orchid Hybrids*, and is anxious to receive dates of fecundation and time of first flowering of additional hybrids. Also any notes which are in line with the references already given. Even if the crosses have been effected previously at other places, he would be glad to record any new instance. With the new supplement he intends to issue an Index to the entire work.

Flowers of Paphiopedilum Rothschildianum and its variety Elliottianum are sent by Mr. W. B. Latham, of the Birmingham Botanical and Horticultural Society. It will be remembered that they were originally described as distinct species, and the plants which produced these flowers were purchased as such some years ago. They, however, do not agree with the characters originally given, and it is now well known that both are forms of the same species. One is fairly typical, but the other differs in having a broader, rather shorter and more concave dorsal sepal, and the petals are spotted on the lower half instead of lined, the spots at the extreme base being few, small, and pale in colour.

A very fine form of Masdevallia Chimæra is sent from the same collection, together with a much shorter tailed form, which may be referred to the variety Wallisii.

A flower of the handsome Phragmipedilum × cardinale Vanneri is sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst. It is an exceptionally fine variety, which was awarded a First-class Certificate by the Royal Horticultural Society in February, 1890.

A series of eight flowers from different forms of the polymorphic Odontoglossum × Andersonianum are sent from the Tapton Court collection, Sheffield, by Mr. E. Howarth. One is a very good typical form with clear white ground and many cinnamon brown spots; another is var. hebraicum, and the others are more ordinary forms, with both white and yellow grounds. Two forms of O. × Coradinei are also sent.

Flowers of Odontoglossum × excellens spectabile and O. × stauroides elegantius are sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. They are two very interesting Pescatorei hybrids, and the former has very broad segments. Two distinct forms of Dendrobium × Ainsworthii are also sent.

A very good form of Odontoglossum × Coradinei has appeared in the collection of E. Docker, Esq., Dudley House, Isleworth. The shape is good, and the ground colour bright canary yellow, with a few small brown spots on the sepals and petals, and a larger one on the lip, in front of the crest. It is quite intermediate in shape between O. crispum and O. Lindleyanum.

An exceptionally large and handsome form of Dendrobium Wardianum is sent from the collection of Major-General Gillespie, Brynderwen, Usk, Monmouthshire. The flower measures five inches in expanse, from tip to tip of the petals, which themselves are $7\frac{1}{2}$ inches in diameter. The large purple blotch at the apex of the segments is very sharply defined from the white ground, and the two maroon blotches on the lip are very large, while the orange-yellow ground extends quite two-thirds of the way to the apex. It is from a new importation, and several of the old stems are covered with flowers of the same size, making a very fine sight.

A chaste and beautiful albino of Dendrobium nobile is sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne. It has the broad, flat segments and other characters of D. nobile, and must be referred to D. n. virginale, figured at p. 145 of our fifth volume. The lip has a faint flush of palest primrose, and the column is green, besides which there is not the slightest trace of colour in the flower. Flowers of D. n. albiflorum, D. n. Amesiæ and the true D. n. nobilius are also sent. and are extremely beautiful.

Shortly afterwards flowers of the same beautiful albino were also sent from the collection of R. H. Measures, Esq., The Woodlands, Streatham.

from which it is evident that this charming variety will soon be much better known.

A good form of Dendrobium × Ainsworthii is sent from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, by Mr. Stafford, who describes the parentage as D. nobile Cooksonianum × D. aureum Ellerianum. The flower is of good shape, with broad segments, and pure white with a rich maroon blotch, which is less distinctly feathered at the margin than usual. Eight plants have bloomed, which are said to differ chiefly in colour, one or two being tinted with rose, and others tipped with a similar colour.

A very fine form of Odontoglossum Hallii is sent from the collection of J. Wilson Potter, Esq., of Croydon. The flower measures $4\frac{3}{4}$ inches across its broadest diameter, and both sepals and petals are very heavily marked with deep brown.

A flower of the pretty little Phalænopsis × Hermione is sent by Messrs. James Veitch & Sons, Chelsea. The parentage is said to be uncertain, but is thought to be P. Stuartiana ♀ and P. Lueddemanniana ♂. The flower is prettily spotted all over with rose-purple on a lighter ground.

DENDROBIUM × AINSWORTHII AS A WILD PLANT.

Had Dendrobium × Ainsworthii appeared as a wild plant prior to 1874, it would almost certainly have been described as a species, and evidence now comes to hand which shows that such a thing might very easily have happened. One of the plants in a batch of about three-hundred imported D. nobile, in the collection of W. Thompson, Esq., Walton Grange, Stone, has surprised everyone by producing flowers of D. × Ainsworthii instead of those of D. nobile, and Mr. Stevens thought it of sufficient interest to communicate. And in answer to an enquiry as to whether there was any possibility of mistake, Mr. Stevens said "No! and to prove that nobile and heterocarpum grow together, I last year flowered both together in the same pan, from imported plants." The two facts I think may be taken as conclusive, and it now seems quite possible that the hybrid was in existence as a wild plant before Dr. Ainsworth raised it artificially. At all events the evidence now published is extremely interesting, and this is not likely to remain an isolated example. It may be added that D. nobile and D. aureum (heterocarpum) are both found in Nepal, Sikkim, Khasia, Assam, and Upper Burmah, though from which of these localities Mr. Thompson's plant came I do not know. In Sikkim, D. nobile is said by Sir George King and Mr. Pantling to be very common up to 5,000 feet elevation, while D. aureum is found in tropical valleys up to

3,500 feet, so that at the lower elevation the two may grow intermixed in various localities. It may be added that the flowers of Mr. Thompson's plant are white, with the usual feathered blotch on the disc, and thus are nearer to typical D. × Ainsworthii than to its varieties, though not quite identical with any form which I have seen.

R. A. ROLFE.

THE HYBRIDIST.

DENDROBIUM × CLYTIE.

A FLOWER of a very pretty hybrid Dendrobium bearing the above name is sent from the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham, by Mr. Smith. It was purchased as a seedling from D. Findlayanum × Leechianum, and the flower sent is just what might be expected from such a parentage. It is of good shape, with the sepals and petals rose-purple near the apex, passing to nearly white at the base; and the lip bears a fine maroon blotch on the disc, slightly feathered at the margin, where also is a trace of yellow, the rest of the lip being nearly white, tipped with rose-purple. It will be seen that it owes its characters to the combined influence of the three species, D. Findlayanum, nobile and aureum, and that it must be classed as one of the remarkable series of secondary hybrids, of which D. × chrysodiscus and D. × melanodiscus, raised in the collection of Sir Trevor Lawrence, were the originals. The history of these plants was thus recorded at page 16 of our first volume:—"One of the most remarkable results yet chronicled in the genus was obtained by crossing D. × Ainsworthii with the pollen of D. Findlayanum, and *vice versâ*. The seedlings began to flower in 1877. The first had a purple disc, and was named by the late Prof. Reichenbach D. × melanodiscus, but the second had a deep yellow disc, and was called D. × chrysodiscus. Others from the same batch have been called D. × Luna, etc. So different are the forms that no one would ever suspect them to have the same parentage." Other named forms from the same parentage are D. × Hebe, D. × Dido, D. × pallens, D. × Rainbow, and D. × The Pearl, and the R. H. S. records show that these plants have gained two First-class Certificates, and five Awards of Merit at the Society's Shows, which speaks volumes as to their decorative value. It would be interesting to see the whole series side by side, for it is one of the most remarkable cases of polymorphism among hybrids yet known.

PAPHIOPEDILUM × FORTUNA.

A very beautiful flower has been sent from the collection of Reginald Young, Esq., of Sefton Park, Liverpool, with the following note on its history. The seedling was purchased from Messrs. Charlesworth & Co. in March, 1895, when it was thought to be P. × Smithii. In April of the following

year it flowered, and proved to be quite different, and was much admired, though no one succeeded in identifying it, either then or a year later, when another flower was produced. This year it has flowered again, and was standing side by side with P. callosum, when Mr. Young was struck by the marvellous similarity between them in several characters, and a further examination convinced him that this was one of the parents. Following the matter up, he was convinced that P. Hookeræ was the other parent, and in this we fully concur. Mr. Young has plants of P. × marmorophyllum (Hookeræ × barbatum) and P. × enfieldense (Lawrenceanum × Hookeræ), and we fully agree with him that it is quite distinct from both. It thus appeared to be a new hybrid, but its origin still remains a mystery, for Messrs. Charlesworth inform us that they have no record of this cross, and think that it must have come out of one of the collections of seedlings which they have purchased. It would be interesting to know if any of our readers can throw any further light on its origin. The flower is much like a fine callosum, strongly suffused with purple, especially in the petals, and the staminode modified into that nearly orbicular shape which shows as clearly the influence of P. Hookeræ as in the two hybrids just mentioned. The petals, however, are as strongly curved as in callosum, and the outline, curvature, and veining, of the dorsal sepal are almost identical, with the single exception of colour. The petals are rather shorter and broader than in callosum, but show traces of the characteristic warts on the upper margin. The lip is also rather shorter, and darker in colour. It is a strikingly handsome form, being excellent both in shape and colour, and it lasts a long time in good condition. Mr. Young must be congratulated on his good fortune.

Masdevallia × Hebe.

Another hybrid Masdevallia has been raised by Captain Hincks, Terrace House, Richmond, Yorks., of which we have received a flower. It was obtained by crossing M. coriacea with the pollen of M. Veitchiana grandiflora, and the seedling, which came up in 1891, has now flowered for the first time. The foliage is said to most resemble the seed parent. The flower is also most like M. coriacea in general character, but the lateral sepals are modified in the direction of the other parent, and the flower stalk is elongated to a foot long. The inner surface of the perianth also bears a number of minute crimson hairs, especially on the nerves, which further shows the influence of M. grandiflora. The perianth tube is $\frac{3}{4}$ inch long, and the lateral sepals extend nearly two inches further. Each sepal bears three darker nerves, as in M. coriacea. It is an interesting addition to the series raised by Captain Hincks, though less brilliant in colour than might have been expected. It has obviously not yet reached its full development.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.

THE Spring Show of this Society was held in the Town Hall, Manchester, on March 21st, and, notwithstanding the severe weather prevailing, a magnificent display of spring flowers was forthcoming, amongst which, as on previous occasions, Orchids formed the leading attraction. The whole of the wall space and in front of the organ were practically filled with groups of floral gems of this popular Order, and we have no hesitation in stating that the display is the finest we have seen in Manchester at this time of the year.

Elijah Ashworth, Esq., of Wilmslow, staged a group in which were many rare and beautiful varieties, and which was awarded a Gold Medal. The beautiful albino Dendrobium nobile Ashworthianum, was again shown and was awarded a First-class Certificate. We described this in vol. 6, p. 120, and see no reason to alter our views of it there expressed, upon again seeing it in flower. First-class Certificates were also awarded to Cattleya Trianæ, Harefield Hall variety, with pure white petals and sepals of perfect form and very dark lip, C. T. Arthur Ashworth, and C. T. John Ashworth. Amongst Dendrobiums we also noticed D. nobile Ballianum, n. nobilius, × Rolfeæ, × Rainbow, × Juno, × Schneiderianum, and × Wiganiæ. A very fine plant of Lycaste Skinneri, a mass of flowers, received a Cultural Certificate, and a plant of the curious Pleurothallis Roezlii was also shown, and its remarkable dark purple flowers received much attention.

W. Thompson, Esq., of Stone, also obtained a Gold Medal for a choice group, in which good varieties of Odontoglossums were most conspicuous, and, as usual from this collection, wonderfully well cultivated. First-class Certificates were awarded to Odontoglossum × Coradinei, luteo-purpureum radiatum, Hallii, and × Wilckeanum. We also noticed five plants of O. luteo-purpureum crispatum, triumphans grandiflorum, × cuspidatum, several good forms of crispum, and Miltonia Roezlii alba.

Mr. James Cypher, of Cheltenham, also staged a wonderful group of exceptionally well grown plants, arranged with his usual skill, and was awarded a Gold Medal. The most noticeable plant was Dendrobium × Clio (D. × splendidissum grandiflorum × Wardianum). This is a pretty and distinct hybrid, with Wardianum lip and petals, and sepals suffused with pink after the way of the seed-bearing parent. When strongly grown, this should be very fine. Awards of Merit were given to D. Wardianum candidulum, nobile Perfection, and Cattleya Mendelii Perfection.

S. Hincheliffe, Esq., Altrincham, was awarded a Silver Medal for a good miscellaneous collection, amongst which we noticed a very well grown plant of Dendrobium Wardianum, several well cultivated specimens of D.

nobile, D. n. Cooksonianum, Cymbidium Lowianum, C. eburneum, and some good Odontoglossum crispum.

Messrs. Charlesworth & Co., Bradford, obtained a Silver Medal for a good miscellaneous group, amongst which various forms of Phaius × Norman were the principal feature, and to which a First-class Certificate was awarded. We also noticed a fine plant of Odontoglossum × Wilckeanum (First-class Certificate), Dendrobium × Venus, and Lycaste Skineri alba.

Mr. John Robson, Altrincham, was also awarded a Silver Medal for a very extensive exhibit, in which there were noticeable many well grown Dendrobiums. D. × Ainsworthii intertextum and D. × Rubens grandiflorum were awarded First-class Certificates. D. nobile splendens, D. n. Pitcherianum, and Cypripedium insigne, a large form with bold, dark spots in the dorsal sepal, obtained Awards of Merit, and a very large and well-flowered specimen of Dendrobium nobile, very light in colour, received a Cultural Certificate.

A. Warburton, Esq., Haslingden, staged a small collection, and received First-class Certificates for Odontoglossum meleagris, Dendrobium Sybil, D. × Rolfeæ roseum, and Cattleya Trianæ delicata. A Cultural Certificate was awarded to Dendrobium nobile nobilius.

S. Gratrix, Esq., of Whalley Range, showed, amongst other things, Cattleya Trianæ Gratrixiæ, Cypripedium Rothschildianum and Lycaste Skineri alba.

Fred. Hardy, Esq., Ashton-on-Mersey, staged a small group of interesting Dendrobium hybrids.

ORCHIDS IN SEASON.

ORCHIDS are now making a brilliant display, particularly Dendrobiums, Odontoglossums, and Cattleya Trianæ, of which we have received numerous fine examples.

A beautiful series of flowers comes from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell). Mr. Broome remarks that they are largely from imported plants, flowering for the first time, and that it forms one of his chief pleasures in Orchid growing to watch these plants gradually establish themselves, produce their growths, and ultimately develop their flowers. He also alludes to the sudden change of temperature. Peaches and nectarines were in bloom outside, and bees at work upon them, and a few days later came a covering of snow and several degrees of frost. Fortunately the temperatures inside can be kept under better control. The flowers sent include five handsome forms of Cattleya Trianæ, differing much in colour; also a beautiful C. Schrœderæ alba,

whose pure white ground is relieved by the deep orange-yellow throat; and a form of bicolor, with a most brilliant amethyst-coloured lip, which forms a striking contrast with the olive-green sepals and petals. There are also two massive flowers of Lycaste Skinneri, one blush-pink, the other darker, and both having the lip much marbled with crimson; and a thirteen-flowered spike of the remarkable Stauropsis gigantea, whose flowers might have been modelled in wax. They are Vanda-like, very fleshy, and blotched with reddish brown on a pale yellow ground. Odontoglossums include crispum, luteopurpureum hystrix, and Hallii, all splendidly developed. The Dendrobiums are very beautiful, and comprise the massive D. × Ainsworthii splendidissimum, D. nobile nobilius and D. n. elegans, both very handsome; a three-flowered raceme of the charming D. crassinode Barberianum, and the remarkable D. Brymerianum. All the flowers are splendidly developed, and show that they appreciate the liberal treatment which they certainly receive.

Several beautiful Odontoglossums from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke) show their value at this season. They include several forms of O. triumphans, one dark form having very short, broad sepals and petals; a second, rather similar in shape, but the markings more spot-like and much paler in colour. There is also a very light form of the normal type, with long sepals; a second, with much fewer spots, which thus appears more yellow, and three dark forms. They illustrate very well the amount of variation in the species. The others sent are the handsomely spotted form of O. × Andersonianum, known as Ruckerianum Crawshayanum, the pretty little O. × Andersonianum pulvereum, with yellow ground, and very numerous brown spots, and a well-marked form of O. × excellens.

A beautiful series of Dendrobiums comes from the establishment of Mr. John Robson, of Altrincham. They include the charming little D. nobile murrhiniacum, D. n. Pitcherianum, very similar, but with white instead of pale blush ground; the splendid D. n. nobilius, D. n. pulcherrimum, D. × Thalia (nobile × Ainsworthii), D. × Apollo (× Ainsworthii splendidissimum × nobile pulcherrimum) and the richly coloured D. × Rubens.

Two good light forms of D. nobile are sent from the collection of D. M. Grimsdale, Esq., Kent Lodge, Uxbridge, together with a larger form beautifully tipped with rose-purple at the apex of each segment. The pretty little Odontoglossum gloriosum is also sent. Though much less showy than most others from the same region, it is very distinct and forms a pleasing contrast with them.

A large light form of Cattleya Trianæ is sent from the collection of E. F. Clark, Esq., of Teignmouth, together with a much smaller form. The

latter is one of three from a large pseudobulb, but two years ago when the growth produced a single flower it was much larger, and last year the raceme bore four flowers, but larger and better coloured than at present, while two years ago the plant bore a single larger flower. This falling off seems to indicate weakness and the necessity of some change in the treatment. A small but remarkable variety of Paphiopedilum insigne is also sent, which was obtained from the Woodall collection as var. purpureo-album. The petals are closely spotted almost to the extreme apex, and the dorsal sepal is very heavily blotched almost to the apex, the blotches being confluent in the lower half. A second more normal form is also sent, together with a good Cœlogyne cristata and Epidendrum × O'Brienianum.

Other beautiful Dendrobiums from the collection of G. Shorland Ball, Esq., Ashford, Wilmslow, include the beautiful D. nobile Amesiæ, the pretty little D. crassinode albiflorum, a three-flowered inflorescence of the beautiful D. Wardianum ochroleucum, D. Findlayanum, D. × Schneiderianum, a beautiful hybrid between the last-named species and D. aureum, D. × Juno, D. × Ainsworthii roseum, and the large and richly-coloured D. × Rubens grandiflorum. All of them are very well grown and form a very charming little group.

SPONTANEOUS HYBRIDS OF HARDY ORCHIDS.

In a series of articles in the *Gardeners' Chronicle* entitled "Spontaneous Hybrids of Hardy Plants," by Mr. C. Wolley Dod, the following note occurs:—"Orchis foliosa makes hybrids with O. maculata. I have for many years grown O. foliosa as a hardy plant. Some years ago I noticed spotted leaves among them, but now that I have picked out many of these hybrids, I find plain leaves are as common in them as spotted. The flower-spike is longer, the flowers smaller, and the general character and habit partake of both parents. They make excellent border plants. O. maculata comes up spontaneously in such spots of the garden as it fancies, the seed being plentifully present in the soil. A favourite spot for it to come is the centre of a mass of German Iris. I may mention, as a sign of the prevalence of O. maculata in the native soil, that near the garden is a field which had been for many years ploughed land, but became full of this flower two years after it was laid down for pasture. In that case the roots may have been dormant in the soil, but I am sure that those in my garden came from seed" (*l.c.*, 1899, xxv., p. 179). This is very interesting, and we believe that this particular hybrid has not previously been recorded, for the two do not grow together in a wild state. Nor do we remember a previous record of a garden hybrid among hardy Orchids, though wild ones are comparatively common in South Europe.

NOMENCLATURE OF HYBRIDS.

A CORRESPONDENT again calls attention to the rapidly-growing confusion in the nomenclature of hybrids, and urges the necessity of a better understanding as to the principles to be followed in naming these plants, and a better system of recording the hybrids already in existence, so as to prevent so many duplications of names.

With regard to the former point, it has been very well observed that we have two or three different and more or less conflicting systems in use at the same time, and a further discussion of the principles involved may help to clear the way for some improvement. In the first place it seems to be generally agreed that in some way hybrids should be distinguished from natural species, and in order to affect this three different methods have been adopted.

(1) To give names to hybrids compounded from those of their two parents, as Dendrobium Wardiano-aureum.

(2) To name them uniformly as florist's flowers, as Cattleya William Murray.

(3) To use a Latinised specific name with the addition of the sign of hybridity, " ×," as Phalænopsis × intermedia.

The first method has the advantage of indicating the parentage, and is in accordance with a botanical rule, but there are several objections which suffice to prevent its general adoption. The parentage is not always known, in which case the alternative botanical rule is in accordance with the system No. 3, just mentioned. The plant when described may not be known to be a hybrid, as Lælia Schilleriana. The compounded name may be too long for practical use, as Cypripedium Fairrieano-Lawrenceanum. Or, what is the most fatal objection of all, it must inevitably break down when applied to compound hybrids derived from several species.

The second method is inapplicable to natural hybrids whose origin is unsuspected at the time of their appearance, and which are consequently described as species. And, as now applied, it does not lend itself to the principle now almost universally adopted of considering all hybrids between the same two species as forms of one, nor yet with the rules of binomial nomenclature. (See remarks of *Argus* at p. 6 of our fourth volume). It is, however, admirably suited for the nomenclature of secondary hybrids, if combined (as it should be) with the practice of only naming the most distinct forms and those which show some improvement on pre-existing ones.

The third method combines most of the advantages of the other two, without their drawbacks. It indicates clearly that the plant is not a species, without vitiating the principle of binomial nomenclature, and is applicable both to wild and artificial hybrids, whether the parentage is

known or not. It has therefore the necessary element of stability, and we believe is the system best suited for the nomenclature of all primary hybrids, whether of wild or artificial origin, and which, therefore, ought to be adopted.

It will, of course, be asked why primary and secondary hybrids should be treated differently? and we think that it is not difficult to give a satisfactory answer. In the first place secondary hybrids are so notoriously polymorphic that it is almost impossible to apply uniformly the system of regarding all those derived from the same parentage as forms of one, and naming them accordingly, and as these plants are chiefly interesting as florist's flowers, we think they should be judged from a florist's standpoint, and named accordingly. Why then should primary hybrids be treated differently? From a florist's standpoint there are numerous primary hybrids which are so inferior to others that, except for the interest they may possess to their raisers, they are neither worth naming nor keeping; yet all crosses between distinct species are of such biological interest that they should be recorded. For purely scientific purposes the joint names of the two parents would suffice, but this is impracticable in many cases, as we have already seen, and as the alternative rule provided to meet these cases can be universally applied, we propose that it should be adopted for garden purposes also. It answers the florist's purpose quite as well as the other, and nothing is gained by adopting a different system.

It might easily be argued that the same method is as suitable for the nomenclature of secondary hybrids as for primary ones, and that if the "×" were invariably used, it would prevent all confusion with natural species. In this we fully concur, and if it were necessary to treat all alike we should prefer the present one, for we believe nothing is more responsible for the growing confusion than the use of the vernacular. Its very introduction seems fatal to an orderly arrangement. It was quite easy to call all the hybrids between Cypripedium insigne and Spicerianum varieties of × Leeanum, but those between barbatum and bellatulum were all treated as if totally distinct—which it is notorious that they are not—simply because of the introduction of a system unsuited to the purpose. C. × Leeanum superbum and C. × L. giganteum were all right, but "C. × Charles Richman Francois Peeters," and "C. × C. R. Marchioness of Salisbury" were of course, too incongruous for adoption. Had the second or specific name been latinised into Richmanii, in conformity with the R.H.S. rules, the additional varietal names would have been tolerable. Some of the compromises between the two systems, however, as Cattleya William Murray fulgens and Phalænopsis Baron Schröder superba, are barbarous combinations, and violate every known rule, and the mischief

again lies in the use of the vernacular, and might have been avoided by latinising the specific names, and writing C. × Murrayi fulgens and P. × Schrœderi splendens.

The specific name should consist of a single word, though in a few cases two are admissible if connected with a hyphen, but no one would propose the addition of a hyphen in the cases just mentioned. It is, of course, not necessary that specific names should always be latinised, for there are numerous classical and mythological names which are well suited to the purpose, and many of them have been very happily employed, as Niobe, Cassandra, Hebe, &c. And they are as suitable for secondary hybrids as for primary ones, for some of the former differ so little from each other that the addition of a varietal name is much better than one which fails to indicate their relation to each other.

A word or two more may be said about the practice of compounding a name for a hybrid from that of its parents, which some are in favour of. A name like Cypripedium × œno-superbiens may seem simple and euphonious, but it is too much abbreviated to explain whether C. × œnanthum or C. × Œnone were one of the parents. It would also have been impossible if the system had been in vogue from the commencement, because œnanthum is a compound hybrid made up of barbatum, villosum, and insigne, to which superbiens is now added, and an attempt to incorporate this history in a specific name is impracticable.

The rule of giving to hybrids the joint names of their parents would entail wholesale changes in nomenclature, and largely invalidate the law of priority, for which latter reason the names Odontoglossum glorioso-crispum, Lælio-cattleya purpurato-intermedia, and others—though given in accordance with a botanical rule—have been objected to. The compound names themselves would sometimes require alteration, because the parentage is not always correctly interpreted at the first attempt, as in the case of Odontoglossum × excellens and O. × Cookeanum, which is another argument in favour of the system of using a specific name. And in the case of a hybrid originally described as a species, all that is necessary is the addition of the sign of hybridity, as in the case of Oncidium × hæmatochilum. It would occasionally act in the reverse way, for Cattleya velutina was at first described as a natural hybrid. Fortunately, however, the joint names of the supposed parents were not given, so that instead of having to give a new specific name, all that was necessary was the removal of the " × ." It might be argued that the use of a compound name renders the use of the " × " unnecessary, but such is not the case, for there are compound specific names connected by a hyphen which, in point of form, are identical with compound hybrid names.

We have gone into the matter at some length, in the hope of bringing out the different points involved in this difficult question, and the conclusion we arrive at is that primary hybrids, at all events, should not be named in the vernacular, and that the system of compound names is too cumbrous and difficult of application. The intermediate course of giving a latinised or classical name, limited to a single word and prefixed by the sign of hybridity, on the contrary, is short and simple, possesses the necessary element of stability, permits the addition of a varietal name whenever such an addition becomes necessary, and, we think, should be uniformly adopted.

FEEDING ORCHIDS.

I HAVE been expecting that some of your numerous readers would give their experience of Orchid feeding, as recommended by Dr. Smee (*O. R.*, vol. v, p. 270). Early last summer I invested in a set of Apothecary's scales and weights, costing 3s. 6d., and also in 3s. worth of the nitrates and phosphates, making up four or five dozen five-grain powders, and using one for a one-gallon can. This was given weekly to those plants that showed good root action; also placing throughout the stages a few lumps of dry carbonate of Ammonia. This spring all my plants are remarkably healthy, and the new bulbs are all very much larger than those of last season. Plants of Odontoglossum Rossii are particularly strong, and the colouring of the flowers is clean and distinct. I send you a few spikes from different pans, which are a fair sample of forty plants. I may say we water freely, keeping plenty of ventilation from below with the hot water circulation. We used about 2lbs. of Carbonate of Ammonia, and have some of the powders left for this season. If we had any doubt of the benefit of the feeding to the Orchid bulbs we could have none as to its effect on the sphagnum, the moss growing tall and so quickly that we had to cut it down three times.

W. G. MOORE.

[The five spikes sent are certainly very good examples of this beautiful little Orchid, and we are very glad to learn that Mr. Moore finds the treatment beneficial. We have no doubt that many Orchids would benefit by judicious feeding if suitable nutriment were given when the roots are active, and experiments of this kind, if conducted impartially, afford valuable information on the subject. We should like to see the system thoroughly tested on a few selected species, several plants each being chosen, as nearly as possible of equal strength, and one half fed for two successive seasons, the other half receiving ordinary treatment. Of course, all should be grown together and treated alike in other respects. We should like to know the experience of others with this treatment.—ED.]

WHAT CONSTITUTES ODONTOGLOSSUM × WILCKEANUM?

MR. CRAWSHAY is anxious to have an exact diagnosis of the characters of Odontoglossum × Wilckeanum, which shall serve to distinguish every hybrid between O. crispum and O. luteopurpureum from its two parents; and he has initiated a discussion under the above title (*Gard. Chron.* Feb. 11, p. 82) which at all events contributes something to the literature of the question (see my reply, l.c., Feb. 25, p. 123, and Mr. Crawshay's rejoinder, March 11, p. 157) though it deals with matters which were anticipated in the discussion respecting the so-called O. crispum Golden Queen which took place in these pages two years ago (*O. R.* v., pp. 73, 113, 143), which terminated with the remark:—"It is quite possible that it is a form of the variable O. × Wilckeanum, in which the shape of O. crispum is nearly reproduced." The recent discussion seems to have been called forth by my note respecting O. × Wilckeanum flaveolum at p. 10 of the present volume, but need not be repeated except so far as it contributes anything to our knowledge of the subject.

First it may be observed that the original name of this hybrid is O. × Denisoniæ, though the fact that nearly all the records are under O. × Wilckeanum makes it rather difficult to use it in a discussion of this kind. Its extreme polymorphism has long been known, and was pointed out in detail by me six years ago (*O.R.* i., p. 205). It might be thought that the definition there given was wide enough to include "Golden Queen," and as a matter of fact when asked at the Drill Hall what it was, I at once replied "a form of Wilckeanum," but on being told that it had been unanimously certified by the Orchid Committee as a crispum, and that the crest and shape were most like crispum, I remarked that it might be so, for we hardly knew the limit of variation in O. crispum.

And this is where the chief difficulty lies, for it is quite certain that some forms which have been referred to O. crispum are really forms of Wilckeanum, because they show certain characters which could only have been derived from luteopurpureum, but there are other less clearly marked forms whose origin cannot be told with any degree of certainty. Some of them may be either extreme variations or hybrids. It has been suggested that some of these forms are secondary hybrids, and in the Bogota district there is at least the possibility that such may occur. Theoretically we may say that Wilckeanum might be crossed back on to both its parents, and also combined with the species O. gloriosum and Lindleyanum, and with the hybrids O. × Andersonianum, × mulus, and × Coradinei, all of which are found in the Bogota district.

In order that we may know what such secondary hybrids are like I would suggest that growers of Odontoglossums should attempt some of

these crosses, and sooner or later success would attend their efforts. It is not at all hopeless to try, for seven distinct artificial hybrids have now flowered, and some have been raised more than once. Mr. Crawshay asks me to tell him how to germinate the seeds in greater quantity, but I can only recommend him to persevere, make plenty of crosses, and sow the seeds under various conditions. In a wild state they must cross with the greatest freedom, and the seeds must germinate freely, or they would not be so numerous among imported plants. Mr. Crawshay has a few seedlings already, and I hope they are from crosses which will elucidate the point under discussion.

If secondary hybrids do occur in the Bogota district, some of them ought to be derived from three species, and sooner or later it ought to be possible to recognise them. Hence I have been on the look out for some time, but without much, if indeed any, success. The great majority, at all events, seem to be primary hybrids, and their parentage can be easily recognised. Mr. Crawshay sent me O. × Andersonianum platychilum as a possible secondary hybrid, but I think that it is quite half gloriosum in everything but the broad lip, and the latter seems due to the crispum character coming out more strongly there than elsewhere. A few well-conducted experiments would probably throw a flood of light on this question, and our hybridists should take the matter in hand. Some of the crosses above suggested are probably worth making, quite apart from the botanical question involved, and would probably yield new and distinct forms, for it can scarcely be that all of them occur wild, even if some of them do.

At all events, until the results of such experiments are forthcoming we must continue to make out the various intermediate forms as best we can, after comparison with the wild species with which they occur, making due allowance for polymorphism, and for the preponderating influence which one parent sometimes seems to obtain over the other. Had Epiphronitis × Veitchii, for example, appeared as a wild plant, who would have ascertained its origin by any process of comparison?

In connection with this question, Mr. I. Ireland, of Handsworth, Sheffield, has sent me a painting, by Miss Harvey, of a plant which flowered in the collection of the late Enoch Harvey, Esq., of Riversdale, Liverpool, in 1883. It appeared among some imported plants of O. crispum purchased from Messrs. Shuttleworth, Carder and Co., of Clapham, and a flower was submitted for determination to Prof. Reichenbach, who replied that it was one of the finest O. × Wilckeanums that had yet come under his notice, and requested the whole spike for his Herbarium, which was accordingly sent after the painting was made. The plant appears to have been rather small, and the inflorescence carried four flowers, measuring 3½ inches across

the petals, and about intermediate between the two parents in shape. The ground colour is white, the sepals bearing two or three large irregular red-brown blotches, and the petals about six to nine smaller ones. The lip is somewhat pandurate, similarly blotched, and the crest shows a decided approach to that of O. luteopurpureum in shape. It has the appearance of a careful and accurate representation, which Mr. Ireland, who sent the flowers to Reichenbach, fully confirms.

A very charming form has just flowered in the collection of R. Wigfull, Esq., of Sheffield (gr. Mr. Lucas). It most resembles O. crispum in shape, but has a light yellow ground, with numerous red-brown blotches, those near the base of the petals being broken up into small spots. The side teeth of the crest are short, but one on either side of the central pair is much better developed. The flowers are rather small, being under three inches broad across the petals—which may arise from the plant being weak—but the colour and very regular spotting are most effective.

A flower from the collection of Mrs. Briggs Bury, Bank House, Accrington, has a white ground, very regularly and heavily blotched with chestnut-brown. It is quite intermediate in shape, but the lip is rather narrow, and the crest approximates to the luteopurpureum type. It is a very striking and handsome variety.

A plant exhibited by Sir Trevor Lawrence at the R. H. S. meeting on March 14th, under the name of O. crispum maculosum, is a form of this hybrid, being quite typical in the lip and crest. The colour is white, with large blotches of deep red-brown. A flower has been kindly sent by Mr. Crawshay.

Two very interesting forms have just flowered in the collection of W. Thompson, Esq., Walton Grange, Stone, both of which have the short broad segments of the crispum type. The one called var. Yellow Gem has a light yellow ground, tinged with rose-purple on the sepals, a single, small, chestnut spot on the petals, a larger one on the dorsal sepal, and two or three on the lateral sepals. The lateral teeth of the crest are rather more developed than in O. crispum, and thus there is good ground for considering it as a hybrid. The one called var. Princess Victoria has a whiter ground, tinged with light yellow, and many smaller red-brown spots and blotches on each segment, and this also has the lateral teeth of the crest rather too prominent for typical crispum, and thus, I think, must be classed as a form of the present hybrid, which is even more polymorphic than has been supposed.

R. A. ROLFE.

STANHOPEA EBURNEA.

THE annexed figure represents the fine old Stanhopea eburnea, reproduced from a photograph kindly sent by Welbore S. Ellis, Esq., Hazelbourne, Dorking. This species has long been known in cultivation, having been originally described by Lindley in 1832 (*Bot. Reg.*, xviii., t. 1529) from a plant imported by Messrs. Loddiges from Rio de Janeiro, which flowered in the collection of James Bateman, Esq., of Knypersley. Four years previously, a plant which had been sent to Messrs. Loddiges, from

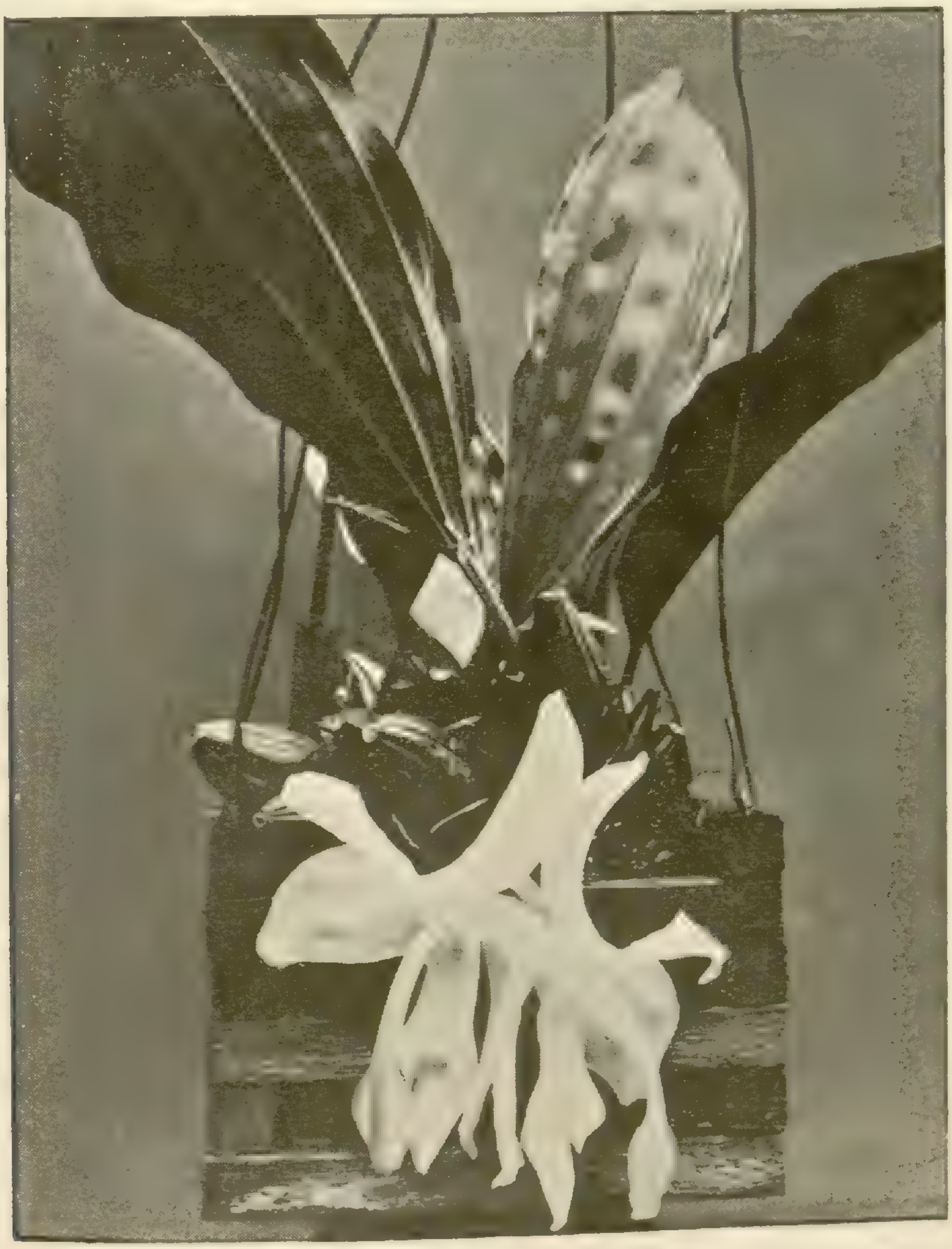

FIG. 10. STANHOPEA EBURNEA.

Trinidad, by Sir R. Woodford, had been figured as Ceratochilus grandiflorus (*Lodd. Bot. Cab.*, t. 1414), and this subsequently became Stanhopea grandiflora (*Lindl. Gen. and Sp. Orch.*, p. 158), being thought distinct from S. eburnea, but both afterwards appeared among Trinidad importations, and proved to be forms of the same species (*Maund Bot.*, iv., t. 176). It has since proved to be widely diffused, having been collected in British Guiana, Venezuela, and more recently in the Andes of N. Peru, by

E. Klaboch, and in the Western Andes of Columbia, by Lehmann. Other figures of the species have appeared—*Bot. Mag.*, t. 3359; *Ill. Hort.*, xiv., t. 531; and *Lindenia*, vii., t. 336—showing that it was formerly well known in collections. It may be so still, though the growing popularity of Cool Orchids has put some of these fine old plants somewhat into the background. Another reason why Stanhopeas are less grown than they otherwise would be is that the flowers are rather fugacious. But they are strikingly handsome while they last, and when well grown are very floriferous; in fact, strong plants seem to produce quite a succession of flowers. They are also of easy culture, and succeed well in the East Indian house, or in an ordinary stove. They are best grown in shallow baskets, open at the bottom and sides, so that the flower scapes may easily find their way through. A mixture of fibrous peat and sphagnum moss forms a suitable compost. A liberal supply of water is required during the growing season, but after the growths are completed they should be allowed a good rest, during which time they should be kept comparatively dry at the root. They should be suspended from the roof, and well shaded during bright weather.

CALENDAR OF OPERATIONS FOR APRIL.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

A SLIGHT rise of the thermometer from the figures given last month may now be allowed advantageously. Accept all favourable occasions for admitting fresh air in all departments, but be somewhat watchful, as the weather is frequently very changeable this month, necessitating a considerable amount of thought and care. For instance, there may be intervals when, owing to cold searching winds, it would not be good policy to open the top lights, especially in the warmer houses, or the cold air may rush in too freely and do more harm than good. It should be remembered that Orchids, having passed through the winter, have a tendency to become more or less debilitated, and will not stand the same volume of air at this period as in six months time, nor will they stand the same amount of bright sunshine, therefore I always recommend shading to take place early in the spring. I hope my words will not be misinterpreted regarding airing, and a system adopted that would weaken the plants still further by insufficiency of air amounting to coddling. I know well the great value of fresh air in the culture of Orchids, but wish to point out the danger of over-ventilation during the spring months, which is greater than at any other time of the year. Much as I appreciate fresh air, I also admire a genial moist growing atmosphere, and the latter should not suffer at the expense of the former. In order to secure a growing atmosphere damping down should now take place morning, noon, and night.

Much re-potting may take place during this month. It is now time to pot up Calanthe × Veitchii, and the C. vestita group generally, for having been well rested since blooming in a light and dry position they will now be sending forth new growths and roots. A mixture of turfy loam and peat, mixed with a little charcoal and coarse sand, makes a good substantial compost for them. The pot should be about half-filled with drainage, and the compost pressed in firmly. Into the centre of this a small stick should be driven, to which one, two or more pseudobulls, according to the size of the pot, should be securely tied, with their base only just inserted into the compost. They will then soon grow and become self-supporting when their roots have got well hold. Newly-potted Calanthes will need but a very small amount of water for some time, and they are best grown in the warmest house, placed on a shelf or in some other position near the glass, where a large amount of light is attainable.

It is also a good time to re-pot Cœlogyne cristata and others that are about to commence growing. This species generally suffers a good deal if very much pulled about or divided, and therefore, when re-potting is necessary, it should be done with care. It is surprising what small pots or pans are requisite for the roots, and what a long time the plant will thrive in the same without being disturbed; that is, supposing all leads that may be disposed to become straggling are kept pegged down within bounds, so as to form a handsome and compact plant, and the mass of pseudobulbs not allowed to become hollow for the want of a little new material being inserted from time to time in any hole or loose place that may appear. This species really requires the warmth of the Intermediate house while making its growth.

In the East Indian department a good many species will now require attention. The Phalænopsis may be supplied with a little fresh sphagnum moss, without disturbing the roots, if possible. They are best grown in baskets or cylinders of teak wood, to which the roots delight to cling. I prefer to grow them suspended about 18 inches or 2 feet from the roof, but of course they also may be grown on the stages, if elevated on some kind of stand; the position that suits them best is one naturally inclined to remain moist and shady, and the stage beneath them should be covered with sphagnum moss or some other moisture retaining material, which should be kept always very wet during the summer, as this will be found very beneficial. The plants themselves should be watered as they require it, *i.e.*, when the moss shows signs of dryness by looking white.

I also prefer baskets or open teak wood cylinders for the Angræcums, Aerides, Vandas and Saccolabiums. The cylinders can be made any length, and thus better accommodate the long leafless stems which many of the above eventually form. The air, too, has then access through the

bars to these leafless stems and the roots which they emit, and this is most essential to the well-being of these aërial-rooting Orchids. Some of these plants will, with age, become more or less leggy or leafless towards the bottom, and this it is difficult to avoid. Some growers cut them down and lower them in another receptacle, but it is extremely risky business. The plants so done may look better for a time, but they ultimately miss the support of the detached stem and roots, and sicken. I would advise no portion to be severed unless it is absolutely dead. The above species should now have all that is required done to them, the old moss carefully removed with a stick, and fresh supplied, afterwards being supplied pretty liberally with moisture about the roots.

Continue to do the necessary repotting among the Cattleyas, Dendrobiums, Odontoglossums or any other genus as they show signs of being in the proper condition, that is when the new breaks and the young roots begin to push. It is well not to let them get too far advanced. Avoid turning out plants unnecessarily, but when repotting is required do it promptly and well. Let the plant be firmly secured in position in the new receptacle so that it cannot be shaken about, and let the compost be put in firmly and evenly, coming well up to the base of the last-made pseudobulb, so that the new roots may enter it directly they push out. The compost should also be trimmed off neatly with a pair of scissors. Further particulars as to repotting will be found in the Calendar for last month.

Flower spikes will now be pushing up on many plants, and should be carefully watched for, and in some cases protected in their young and tender stages from the ravages of the various insect pests which are always on the alert for tasty morsels. For instance, Odontoglossum citrosmum, having been kept very dry since the pseudobulbs were completed last autumn, will now be pushing up its spikes from the centre of the new growths when about half an inch advanced. The spikes grow out very quickly, in one night, and will probably be an inch or so long before they are noticed. They should immediately be protected by a piece of cotton wool, which will keep back the wood lice and other pests until the spike gets further advanced, when they are unable to do much mischief. Epidendrum vitellinum is also just pushing. This showy old species is sometimes apt to give trouble if not grown in the Cool house. I have tried on various occasions to grow it in intermediate temperature, but never succeeded. Let it have a position in the coolest house, and it will do well enough. In the Cool house the beautiful Odontoglossums and Oncidiums will also be showing spikes in a more or less advanced stage of growth. Thrip, if present, is a deadly enemy, and in a very short space of time will utterly disfigure the whole of the buds on a spike. A good way

to prevent these is to dust the young spike, even before it is out of the axil of the leaf, with tobacco powder, and again after it has grown a bit longer. No thrip or fly will then attack it, and slugs are chary about doing so. Oncidium concolor is, I notice, sending up its spikes, and a brighter little species for its size it is hard to find. It succeeds best when grown in small pans or baskets, suspended in the Cool house during summer and in the Intermediate house in winter.

The mention of the genus Oncidium reminds one that a great deal might be said and written on them. Those who attempt their cultivation soon find out that it is not all straight sailing, for some few behave in a way that, to say the least, is very annoying. Oncidiums come from widely different latitudes and altitudes in tropical America, and necessarily require diverse treatment to grow them successfully. A well-appointed Intermediate house seems to answer the requirements of the majority of them very well. A few others delight in great heat—in fact, revel in the hottest of our stove houses; whilst a third small group show a decided preference for the coolest of our Orchid houses.

Oncidium sarcodes is generally cultivated in intermediate temperature, though some declare that it does better in a stove. In any case, it seems difficult to maintain it long in a vigorous and healthy condition. I have found it to succeed best in the warmest end of the Intermediate house, suspended in rather a shady place if possible. If nice, strong, newly-imported plants are purchased, they should be placed in pans or baskets, just large enough to enable them to continue to grow in the same for several years without being disturbed. The crocks used for drainage should be broken up small, and the plants should be firmly secured in good, sound fibrous peat, also pressed down firmly and evenly. If any sphagnum moss be used, it should be but a small quantity, and that only about the surface. Water at first pretty freely to induce new and rapid root action. When these new roots have got well hold ot the peat the plant will be nicely established, and will probably go on growing and doing well if due care in watering be observed. It is in the watering that so much depends with these troublesome or difficult kinds. Careless or over-watering often upsets one's calculations, and instead of the compost remaining in a sound and stable condition, and the roots firm and healthy, as they ought to, the former becomes sour, and the latter, of course, perish. The plant then has to be repotted, an operation which, owing to its then greatly reduced vitality, it rarely survives for long. When the roots have got well hold of the peat in which they are growing, an exceedingly small amount of water is required, for once they are fairly established in this solid mass of peat, it is surprising how they continue to branch out and grow, and to sustain the pseudobulbs and leaves above with vigour, and what a small amount of

water they require for so doing. They eventually find their way down among the small broken crocks, and there become a tangled, living mass, and that is the time that the plant is healthy and doing big things. But should this same plant be over-watered and become soddened for any length of time, these roots perish, and consequently the plant. My advice is to be careful in watering from the first, and the plant will do well enough. providing it enjoys the usual Orchid house moisture atmospherically, and a slight over-head bath with tepid water from the syringe on all occasions when the same is deemed advantageous for the other inmates of the house, which will of course be when the weather and the season permits. My reasons for not employing sphagnum moss for these difficult species is because it decays much more quickly than peat when alone, necessitating the repotting sooner, and it is this repotting which must be avoided until the plant has become thoroughly acclimatised and actually outgrown its receptacle, when it should be done with the greatest care.

Oncidium Lanceanum is another generally troublesome species, although with some it will grow away most freely and do as well as any plant in the house. That is, of course, when it happens to find a position that suits it. For Orchids of this class, much depends upon the position they occupy. I have known this species refuse absolutely to grow satisfactorily in good places where Orchid-growing has received special attention. In defiance of constant attention those horrid black spots would appear on the foliage, and those puny new growths would appear that will not grow stronger. And I have entered the stove house in another garden where there has never been an attempt at special cultivation, and where all the Orchids underwent the same kind of treatment, where the only well-grown plant among them was this very Oncidium Lanceanum, standing out in all boldness with its fine, large, broad leathery leaves, without a mark or blemish of any description, and producing its splendid flower spikes year atter year as thick as an ordinary lead pencil, and its healthy roots rambling in all directions. Such behaviour is, to say the least, strange, and sometimes a little provoking, but the fact still remains. I have tried growing this plant, I believe, in all ways and places, but my greatest successes have been in pots, occcupying a place on the stage with other stove and warm greenhouse plants. The method of potting and the same system of watering has been followed as advised for the foregoing species. O. carthaginense may be most successfully cultivated in the same manner.

Oncidium Jonesianum is another teaser. There is no question that the teak block or raft system of culture in this instance is the best and the only correct one. I mention teak because it is the most durable wood when exposed to the atmospheric conditions of an Orchid house. This species

should always be procured either newly-imported or semi-established, and then one has a chance to grow it. Its nature is to grow in a manner, that, to anyone unacquainted with it, would appear to be upside down, so when fixing it to the block the leaves should always be pointing downwards. It is essentially a heat-loving plant, and should therefore never be removed from the warmest department. It should be supplied with a fair amount of water during the summer, its growing season, but at all other times, a very little water indeed should be given, and the plant should always be suspended in the lightest, the airiest, and the hottest part of the house. Under such conditions alone can O. Jonesianum be grown successfully.

Oncidium ampliatum is also a hot-growing kind, though not by any means difficult. It is best accommodated in baskets or pans, suspended, and should be grown in peat with a little sphagnum moss, paying due regard to the watering, as before advised, especially during the winter season.

Oncidium Papilio and O. Kramerianum are two other well-known old stove species, and should have exactly similar treatment to the last-named, with the exception that they may be grown equally well when fixed on rafts or blocks of teak. I may mention that, if at any time when the block system is adopted for the culture of any Orchid, the wood should become decayed, or the plant overgrow its sides, necessitating a new block, that the old one should be soaked in a bucket of water for about half-an-hour before any attempt is made to take off the plant. The roots will then very readily release their firm hold, and come away without being much broken about. The plant should be fixed at once on to the new block, and kept well moistened for several weeks afterwards, so that the roots may again be induced to take hold. I lay great stress upon the roots, knowing that it is absolutely impossible to grow Orchids well unless these are kept alive and in a healthy state.

Oncidium macranthum, lamelligerum, superbiens, zebrinum, and Leopoldianum I find always grow best treated as Cool house Orchids, and exactly the same as the cool Odontoglossums. They love the cool moist atmosphere, the air, and the shade which that house affords them. Another well known and greatly admired species is O. tigrinum. This generally, also, does very well potted up and subjected to the same treatment, though in this case an improvement is no doubt effected in the long run by giving it a trifle more warmth during the long winter months. O. cheirophorum and O. ornithorhynchum, two neat and pretty species, may also be similarly spoken of, as also may O. cucullatum and O. c. Phalænopsis. The pretty little climbing species, O. Limminghei, must be supplied with a neat raft to correspond, and is best grown in the warmth of the Intermediate house the whole year round.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Coal Exchange, Manchester on March 9th, 1899, when the following members of the Committee were present :—Messrs. G. Shorland Ball (in the chair), W. Thompson, T. Statter, A. Warburton, H. Greenwood, J. Leemann, G. W. Law-Schofield, P. Weathers, J. Cypher, R. Johnson, W. Stevens, J. Robson, and T. Mills.

The meeting was most successful from every point of view. Ninety-six plants were submitted to the Committee for separate awards, and nine groups of miscellaneous Orchids were staged. The quality of the exhibits was very high, as will be seen from the particulars given below, and the Committee were busily engaged for over two hours in adjudicating upon the plants brought before them. The awards numbered eighteen First-class Certificates, twenty-five Awards of Merit, seven Cultural Certificates, and three Medals. The number of awards seems large, but the exhibits were so meritorious that it was impossible to pass them by. As it was, many first-class varieties received no recognition.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed Dendrobium × Thompsonianum (nobile Cypheri × cheltenhamense) to which an Award of Merit was given, and a very select group of Odontoglossums, including O. × excellens spectabile, O. × Wilckeanum concinnum, O. crispum Daphne, O. c. Yellow Gem, and O. luteo-purpureum radiatum, for which he received a Silver Medal.

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed Dendrobium Wardianum ochroleucum, which has already received a First-class Certificate from the Society.

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed two magnificent plants of Cœlogyne cristata alba, which received both a First-class Certificate and Cultural Certificate, Dendrobium × splendissium grandiflorum (Cultural Certificate), D. × s. giganteum (Award of Merit), D. nobile nobilius (Cultural Certificate), D. n. giganteum, D. n. Sanderianum. D. n. Cooksonianum, D. × Leechianum, D. × Ainsworthii, and Odontoglossum × mulus. This exhibitor also staged a very fine group of miscellaneous Orchids, including the above and many others, for which a Silver Medal was awarded.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Dendrobium × Rubens grandiflorum (Award of Merit), D. × Luna (Award of Merit), D. Wardianum album (Award of Merit), D. × Harold McLeodianum (Linawianum × Findlayanum), Cypripedium × Lebaudianum (Award of Merit), C. × Prewettii and Odontoglossum × Andersonianum (Cultural Certificate).

John Leemann, Esq,, Heaton Mersey (gr. Mr. Edge), showed Dendrobium Wardianum album, very much in the way of ochroleucum, but the flower not of quite so good a form, and the colour of the throat orange instead of lemon (First-class Certificate), D. nobile Ballianum (Cultural Certificate), D. n. Sanderæ (Award of Merit), D. n. grandiflorum, D. n. albiflorum (Award of Merit), D. n. Backhouseanum, D. × splendidissimum grandiflorum, D. × crassinodi-Wardianum (Waltoni), Thompson's variety (First-class Certificate), Lycaste Skinneri, Cattleya Trianæ Empress, C. Luddemanniana (speciossima) Princess of Wales, a very distinct variety, the whole flower being suffused with light mauve, and the lip streaked with purple (First-class Certificate), C. × Octave Doin (Mendelii × Dowiana aurea), a magnificent form with aurea type of lip, the lower part of a brilliant deep red, throat golden yellow, and petals and sepals suffused with purple (First-class Certificate), Lælio-cattleya × callistoglossa, a wonderful flower with spike bearing two flowers with immense broad lips (First-Class Certificate), Odontoglossum luteopurpureum and Cypripedium × Harrisianum superbum. The same exhibitor was awarded a Silver-gilt Medal for a very fine group of miscellaneous Orchids.

G. W. Law-Schofield, Esq., New Hall, Hey, Rawtenstall (gr. Mr. Shill), showed Dendrobium nobile giganteum (Award of Merit), D. n. Fisheri (Award of Merit), D. × Doris (Leechianum × moniliforme) a handsome hybrid (First-class Certificate), D. × euosmum virginale (Award of Merit), D. × dulce (Award of Merit), Cypripedium × Lathamianum magnificum, Lycaste Skinneri alba, a very good round form (First-class Certificate), and Odontoglossum crispum virginale (First-class Certificate).

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Cypripedium insigne, a yellow variety (First-class Certificate), and Dendrobium nobile giganteum. The same exhibitor also staged a fine group of cut blooms, for which he was awarded a Vote of Thanks.

E. J. Sidebotham Esq., Bowdon (gr. Mr. Shiner), showed Dendrobium × Luna (Award of Merit).

H. Greenwood, Esq., Haslingden (gr. Mr. Gill) showed Dendrobium × Juno, a very fine form (First-class Certificate), D. × Owenianum, good form (First-class Certificate), D. × Thalia, D. × Aspasia (Award of Merit), and Cypripedium Mastersianum, a very dark form (Award of Merit).

D. B. Rappart, Esq., Liscard (gr. Mr. Nicholson) showed Cypripedium Rothschildianum and Odontoglossum crispum (Award of Merit).

Mrs. Briggs Bury, Accrington (gr. Mr. Wilkinson), showed Dendrobium × Hebe (First-class Certificate), Odontoglossum × Ruckerianum (Award of Merit), and a second hybrid Odontoglossum, not named.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium insigne, Harefield Hall variety (First-class Certificate), C. × Kerchovianum

(Curtisii × barbatum), a well-coloured form (Award of Merit) and C. villosum.

R. Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed a wonderful specimen of Lycaste Skinneri alba, with 33 blooms expanded, for which he was awarded both a First-class Certificate and a Cultural Certificate.

Edwin Stanley Clark, Esq., Wrexham (gr. Mr. Edwards), showed Odontoglossum crispum Mrs. Stanley Clark (Award of Merit), O. Rossii rubescens, and two forms of Cattleya Trianæ; also a group for which a Vote of Thanks was given.

Henry Weetman, Esq., Glossop (gr. Mr. Faulkner), showed Dendrobium nobile Amesiæ (First-class Certificate) and D. Wardianum.

C. J. Crossfield, Esq., Liverpool (gr. Mr. Barkley), showed Odontoglossom crispum albens and Cattleya Trianæ.

Messrs. James Veitch and Sons, Chelsea, showed Dendrobium × Ainsworthii intertextum in splendid form (First-class Certificate), D. × A. amœnum, D. × euosmum leucopterum (Award of Merit), D. × e. roseum, Cattleya Trianæ nivalis, Cypripedium × Morganiæ langleyensis, and C. Boxallii superbum.

Messrs. F. Sander and Co., St. Albans, showed two good forms of Cattleya Trianæ, one of which secured an Award of Merit, Dendrobium × tortile × lituflorum, Cypripedium × Saundersianum, and a good Cypripedium × tessellatum (concolor × barbatum Warneri).

Mr. A. J. Keeling, Bingley, showed Odontoglossum × Wilkeanum superbum (Award of Merit and Cultural Certificate), O. × Andersonianum virginale, very distinct, the groundwork of the flower being almost white, Cypripedium × Lathamianum, C. × L. Bellona (Spicerianum × villosum aureum), Lycaste Skinneri superbissima, and Dendrobium × splendidissimum grandiflorum, Thompson's variety (First-class Certificate), also a miscellaneous group, which was awarded a Vote of Thanks.

Messrs. John Cowan and Co., Gateacre, showed Cattleya Trianæ Arkleana, a flower of good form and substance, with dark labellum, but rather on the small side.

Mr. John Robson, Altrincham, showed Cymbidium × Lowio-eburneum (Award of Merit), Dendrobium × xanthocentrum (Award of Merit), and Odontoglossum crispum, also a group of Orchids which received a Vote of Thanks.

Edward Holt, Esq., Prestwich (gr. Mr. Murphy), staged a group of miscellaneous Orchids, for which he was awarded a Vote of Thanks.

Mr. J. Cypher, Cheltenham, staged an interesting group of miscellaneous Orchids, amongst which were Lælia (Brassavola) glauca, Cymbidium × Winnianum, Dendrobium nobile majus, D. n. grandiflorum, and D. n. nobilius.

At the meeting held on March 23rd there was again a good display. The members of the Committee present were: Messrs. Shorland Ball (in the chair), Law-Schofield, Leemann, Cypher, Johnson, and T. Mills (hon. secretary).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), was awarded First-class Certificates for the following:—Dendrobium × Rubens grandiflorum, D. nobile Amesiæ, D. × Schneiderianum, D. × Sybil, D. × Juno, and Cœlogyne cristata alba; and Awards of Merit for D. × splendissimum Leeanum, and a heavily-spotted Odontoglossum crispum of good form and substance.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), was awarded First-class Certificates for the following:—Dendrobium × splendidissimum illustre, D. × s. grandiflorum (Thompson's var.), D. × Sybil, D. × Juno, D, × Clio, a cross between D. × splendidissimum and Wardianum, described on page 156 of our fourth volume, and Cypripedium insigne Luciani; and Awards of Merit for Dendrobium × splendidissimum Leeanum and D. × Rolfeæ. The same exhibitor also showed D. × Apollo, D. nobile Storei, and D. × Venus.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Dendrobium nobile Amesiæ (First-class Certificate), D. × Apollo, D. × Ainsworthii intertextum, Cattleya Trianæ delicata (Award of Merit), C. × Louis Chaton, Cypripedium × Germinyanum, C. Dayanum, Odontoglossum crispum Mrs. John Leemann (Award of Merit), and O. × Andersonianum. The same exhibitor obtained a Silver Medal for an excellent group in which the above and many other good things figured.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed cut blooms of the following:—Dendrobium × splendidissimum, × Ethel, × Sybil, Wardianum superbum, nobile Tresederianum, × Juno, × Clio, and a pretty seedling from D. amœnum × Cassiope, with pure white sepals and petals, and very much in the style of Cassiope, but much larger, wider in the segments, and of more substance.

D. B. Rappart, Esq., Liscard (gr. Mr. Nicholson), showed a very fine variety of Dendrobium Venus, which was awarded a First-class Certificate.

H. Greenwood, Esq., Haslingden (gr. Mr. Gill), showed cut blooms of Dendrobium × Wiganiæ and D. × melanodiscus.

Eric Shaw, Esq., Stockport (gr. Mr. Cliffe), showed a good form of Odontoglossum crispum.

Messrs. Linden, Brussels, showed Odontoglossum × intermedium Queen Victoria (the parentage given being crispum × O. unknown). This was a very interesting and beautiful flower, with sepals and petals suffused with light canary yellow and a few large spots of dark brown; lip very large and flat, nearly white, and with a few small spots of dark brown. The

plant was very small, and had only two blooms. When strongly grown, it should be an exceedingly fine thing (Award of Merit). The same exhibitor also showed a very fine O. × Wilckeanum tigrinum with the ground-work of the sepals and petals nearly white (First-class Certificate), a very fine O. × Ruckerianum tigrinum (First-class Certificate), a good form of O. luteo-purpureum splendens (Award of Merit), O. × Wilckeanum Golden Queen (Award of Merit), O. × Andersonianum picturatum (Award of Merit), O. × cirrho-Hallii (Award of Merit), O. sceptrum superbum, Mesospinidium vulcanicum grandiflorum, and cut blooms of Lælio-cattleya × Gottoiana.

Mr. A. J. Keeling, Bingley, showed a good form of Dendrobium nobile.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

There was a very good display of Orchids at the Drill Hall on February 28th, notwithstanding the presence of both frost and fog. The members of the Orchid Committee present were:—H. J. Veitch, Esq. (in the chair), J. O'Brien (hon. sec.), H. Ballantine, H. J. Chapman, N. C. Cookson, De B. Crawshay, J. Douglas, T. B. Haywood, E. Hill, H. Little, Major Mason, A. Outram, H. T. Pitt, W. Thompson, F. J. Thorne and H. Williams.

M. Jules Hye-Leysen, Coupure, Ghent (gr. Mr. Coen), sent a three-flowered inflorescence of Odontoglossum crispum Franz Masereel, to which a Silver Banksian Medal was awarded, also Cypripedium × Surprise, a handsome yellow hybrid.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), showed Odontoglossum × Wilckeanum dellense, a handsome yellow form with very few spots (Award of Merit), O. × Cookeanum, a natural hybrid between O. gloriosum and O. triumphans (Award of Merit), and an unspotted form of O. × excellens.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), staged a small group of choice Odontoglossums, to which a Silver Banksian Medal was awarded. It included the fine O. × Coradinei expansum, a large form spotted with brown on a cream-white ground (Award of Merit), O. × excellens spectabile, with two fine spikes (Cultural Commendation), O. × Wilckeanum concinnum, and two handsome spotted forms of O. crispum.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), exhibited Odontoglossum × Andersonianum Bogaerdianum, O. × Ruckerianum Crawshayanum, and a good form of O. Rossii.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), showed some good plants of Cypripedium villosum, C. × Lathamianum, and others.

E. Stanley Clark, Esq., Oak Alyn, Wrexham (gr. Mr. Edwards), sent Odontoglossum Rossii rubescens, O. crispum Mrs. Stanley Clark, a handsomely-blotched form, and a hybrid Cypripedium (callosum × Boxallii atratum).

W. Gould, Esq., Hyfield, near Stockport, sent Lælia glauca.

D. M. Grimsdale, Esq., Uxbridge, sent good forms of Odontoglossum sceptrum, triumphans, and maculatum, also Cypripedium villosum aureum and C. Mastersianum.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), sent Dendrobium atroviolaceum, Lycaste plana, and the rare L. linguella.

F. Knight, Esq., Thundersley, Essex (gr. Mr. Marston), staged a small group, including some good forms of Cattleya Trianæ, Lælia glauca, L. superbiens, and Odontoglossum Rossii majus. A Bronze Banksian Medal was awarded.

Sir W. Marriott, Down House, Blandford (gr. Mr. Denny), showed the pretty little Sophrolælia × Marriottiana.

J. Rutherford, Esq., M.P., Beardwood, Blackburn (gr. Mr. Lupton), showed a good form of Cattleya Trianæ.

H. Shaw, Esq., Birch Vale, Stockport (gr. Mr. Cliffe), sent Odontoglossum luteopurpureum.

G. Thompson, Esq., Stamford Hill (gr. Mr. Johnson), showed a good form of Dendrobium nobile.

M. Charles Maron, Brunoy, France, sent Cypripedium concolor tonkinense, a very fine form, and two splendid Lælio-cattleyas, each of which gained a First-class Certificate. They were L.-c. × Ernesti Princess Olga (C. Percivaliana ♀ × L. flava ♂), with bright chrome yellow sepals and petals, and the lip marked with deep red brown, and an orange base, and L.-c. × callistoglossa var. J. Leemann, a noble form.

Messrs. James Veitch and Sons, Chelsea, sent the pretty hybrids Phalænopsis × Mrs. J. H. Veitch, P. × Ariadne, P. × Cassandra, and P. × Hebe.

Messrs. Hugh Low and Co., Enfield, staged a good group, to which a Silver Banksian Medal was given. It included some good Cattleya Trianæ, C. Dowiana, Lælia cinnabarina, L. harpophylla, Odontoglossum × Andersonianum, O. crispum, Cypripedium × Marshallianum, C. insigne Sanderæ, Dendrobium nobile Tollianum, and others.

Messrs. F. Sander and Co., St. Albans, sent the remarkable little Dendrobium Harveyanum.

The meeting on March 14th was held in semi-darkness, owing to the presence of a heavy London fog, which presumably did not extend far into the country, for the exhibits were unusually numerous and of excellent quality. The members of the Orchid Committee present were: —

H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien (hon. sec.), H. Ballantine, T. W. Bond, H. J. Chapman, J. Colman, S. Courtauld, De B. Crawshay, J. G. Fowler, E. Hill, J. Jaques, H. Little, A. Outram, H. F. Pitt, W. H. Protheroe, F. Sander, W. H. White, C. Winn, W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a fine group of choice things, to which a silver-gilt Flora Medal was given. It included some fine Cattleya Trianæ, Brassocattleya × Lindleyana with twenty-nine flowers, some good Odontoglossum crispum, Cymbidium eburneum, a fine lot of Calanthe Sanderiana, a fine example of Dendrobium × burfordiense, D. × Juno, Masdevallia Harryana, Epidendrum Endresii, C. × elegantulum, Vanda × Moorei, Spathoglottis Lobbii with several spikes, Bulbophyllum barbigerum, Chysis × Chelsoni, Galeandra Devoniana, Spiranthes colorata, &c. Awards of Merit were given to Masdevallia ignea Boddaertiana and Dendrobium × Wiganiæ xanthochilum; Botanical Certificates to Odontoglossum mirandum and Cœlogyne pulchella; and a Cultural Commendation to a profusely-flowered C. conferta.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), received a Silver Flora Medal for a small group of choice Odontoglossums, including O. × Leeanum with a fine panicle of sixty-two flowers, the peerless O. Pescatorei Veitchianum, fine forms of O. luteopurpureum, O. × Wilckeanum, and others.

M. Jules Hye-Leysen, Coupure, Ghent (gr. Mr. Coen) sent Odontoglossum crispum Sultan, with flowers very heavily marked with red-brown (First-class Certificate), O. × excellens Hyeanum, a pale richly spotted variety (Award of Merit), a good dark O. triumphans, Cypripedium × Talisman (Sallieri Hyeanum × Harrisianum superbum), a fine dark hybrid (Award of Merit), and other good things.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent Odontoglossum crispum Duke of York, a beautiful closely and regularly-spotted form to which a First-class Certificate was given.

J. Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), sent Odontoglossum crispum M. J. Leemann, a fine white, evenly-spotted with red-brown (Award of Merit), and Zygopetalum × Perrenoudi.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), exhibited two good forms of Odontoglossum Rossii and O. × excellens.

W. P. Burkinshaw, Esq., Hessle, Hull (gr. Mr. Barker), sent Dendrobium × hessleense, a pretty hybrid derived from D. Findlayanum × splendidissimum grandiflorum.

J. F. Ebner, Esq,, Beckenham (gr. Mr. Waite), sent some well-bloomed Cypripedium villosum.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Barrell), sent good forms of Odontoglossum Pescatorei and O. × Andersonianum.

J. T. Gabriel, Esq., Streatham Hill, sent a very fine form of Dendrobium Wardianum.

J. Stevens Esq., Pope's Grove, Twickenham, showed the pretty little Odontoglossum × Murrellianum Stevensii.

Messrs. Charlesworth & Co., Heaton, Bradford, sent a very fine group, to which a Silver-gilt Flora Medal was given. It contained about forty-five plants of the beautiful Phaius × Norman, a good series of Lycaste Skinneri, Odontoglossum crispum, O. Edwardii, Cattleya Trianæ, some finely-flowered Dendrobium infundibulum, the charming D. × Doris, D. × Sibyl, Cypripedium × Youngianum, C. × Doncasterianum, &c.

M. Charles Maron, Brunoy, France, sent Lælio-cattleya × Ernesti, and L.-c. × Imperatrice de Russie (C. Mendelii ♀ × L. Digbyana ♂), a large and beautiful flower, white, tinged with pink, and the lip beautifully fringed (First-class Certificate).

Messrs. James Veitch and Sons, Chelsea, staged a very fine group, to which a Silver Flora Medal was given. It contained a fine form of Phalænopsis Aphrodite raised from uncrossed seed sown in 1882, P. rosea leucaspis, Cattleya × intertexta, Epiphronitis × Veitchii, some good Lælio-cattleya × Nysa, Cymbidium × eburneo-Lowianum, Phaio-calanthe × Niobe, Epidendrum Wallisii, E. × elegantulum, E. × O'Brienianum superbum, Calanthe × gigas, Dendrobium subclausum, D. × Euryalus, and others. The following three each received an Award of Merit:—Phalænopsis × Cassandra (rosea ♀ × Stuartiana ♂), P. × Hermione (probably Stuartiana ♀ × Lueddemanniana ♂), and Sophrolælia × læta superba (S. grandiflora ♀ × L. Dayana ♂).

Messrs. Hugh Low and Co., Enfield, staged a fine group, to which a Silver Banksian Medal was given. It included some good Cattleya Trianæ, Miltonia Roezlii, Cochlioda Noezliana, Oncidium splendidum, Lycaste Skinneri alba, Lælia harpophylla, L. cinnabarina, L. glauca, and a good series of Dendrobiums, Odontoglossums, and Cypripediums.

Messrs. B. S. Williams and Son, Upper Holloway, also received a Silver Banksian Medal for an effective group, containing Cœlogyne cristata alba, Cattleya Schrœderæ, Cypripedium eburneum, C. Lowianum, a series of Lycaste Skinneri varieties, Dendrobium Wardianum, D. W. candidum, and many good Cypripediums and Odontoglossums.

Messrs. F. Sander and Co., St. Albans, sent Phaius × Joiceyanus (Blumei × amabilis), a prettily-marked hybrid, Odontoglossum × mulus, a fine Dendrobium Wardianum, some good Cattleya Trianæ, and a pretty rose-purple form of Cypripedium × Doncasterianum called Furzeanum.

ORCHID PORTRAITS.

CATTLEYA MENDELII PRINCESS CLEMENTINE.—*Lindenia*, p. 647.

CŒLOGYNE CRISTATA.—*Wien Ill. Gart. Zeit.*, Feb., p. 42, fig. 3.

CYPRIPEDIUM × WIERTZIANUM, L. LIND.—*Lindenia*, t. 644.

DENDROBIUM × VENUS.—*Journ. of Hort.*, March 23, p. 233, fig. 58.

HABENARIA SUSANNÆ, R. BR.—*Lindenia*, t., 642.

DENDROBIUM NOBILE ANOMALUM.—*Lindenia*, t. 645-6, fig. 1.—VAR. LUTEUM—*l.c.*, fig. 2.—VAR. MAJUS—*l.c.*, fig 3.—VAR. ALBO-LUTEUM—*l.c.*, fig. 4.—VAR. SPLENDIDUM—*l.c.*, fig. 5.—VAR. EXCELLENS—*l.c.*, fig. 6.

LÆLIA ANCEPS AMESIANA CRAWSHAYANA.—*Gard. Mag.*, March 4, p. 119, with fig.

LÆLIA ANCEPS SANDERIANA (specimen plant).—*Gard. Chron.*, March 4, p. 136, with plate.

LÆLIA PRÆSTANS LUCIANI.—*Lindenia*, t. 643.

LÆLIO-CATTLEYA × ERNESTI PRINCESS OLGA.—*Gard. Chron.*, March 11, p. 149, fig. 54; *Gard. Mag.*, March 11, p. 144, with fig.; *Journ. of Hort.*, March 30, p. 251, fig. 61.

LISSOCHILUS GRÆFEI, Kränzl.—*Gartenfl.*, March, p. 145, t. 1460.

MILTONIA VEXILLARIA MEMORIA LINDENI.—*Lindenia*, t. 648.

ODONTOGLOSSUM × COOKEANUM.—*Gard. Chron.*, March 11, p. 155, fig. 55.

ODONTOGLOSSUM CRISPUM DUKE OF YORK.—*Gard. Chron.*, March 25, p. 179, fig. 61; *Gard. Mag.*, March 25, p. 174, with fig.—VAR. LA MERVEILLE.—*Lindenia*, t. 641.—VAR. MRS. JOHN LEEMAN.—*Gard. Chron.*, March 25, p. 187, fig. 72.—VAR. SULTAN.—*Journ. of Hort.*, March 23, p. 232, fig. 57.

ODONTOGLOSSUM × WILCKEANUM PALLENS.—*Gard. Chron.*, March 25, pp. 185, 188, fig. 71.

PHALÆNOPSIS × MRS. J. H. VEITCH.—*Journ. of Hort.* March 9, p. 195, fig. 47.

VANDA TERES.—*Gartenwelt*, March 5, pp. 272, 273, with fig.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

J. W. M., Rawdon. Odontoglossum × Coradinei, a natural hybrid between O. crispum and O. Lindleyanum.

J. S. S., Twickenham. One of the numerous forms of Odontoglossum × Andersonianum.

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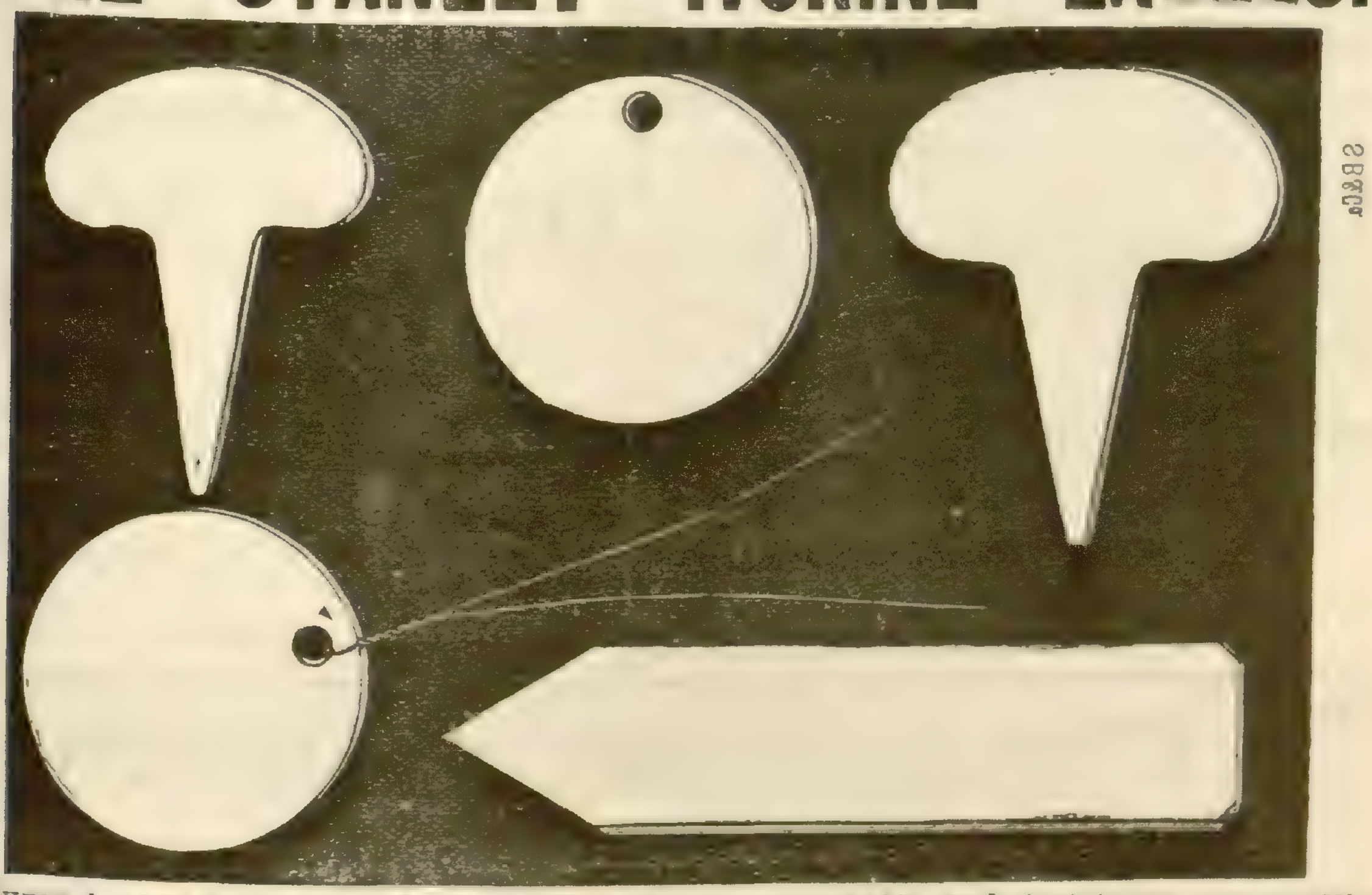

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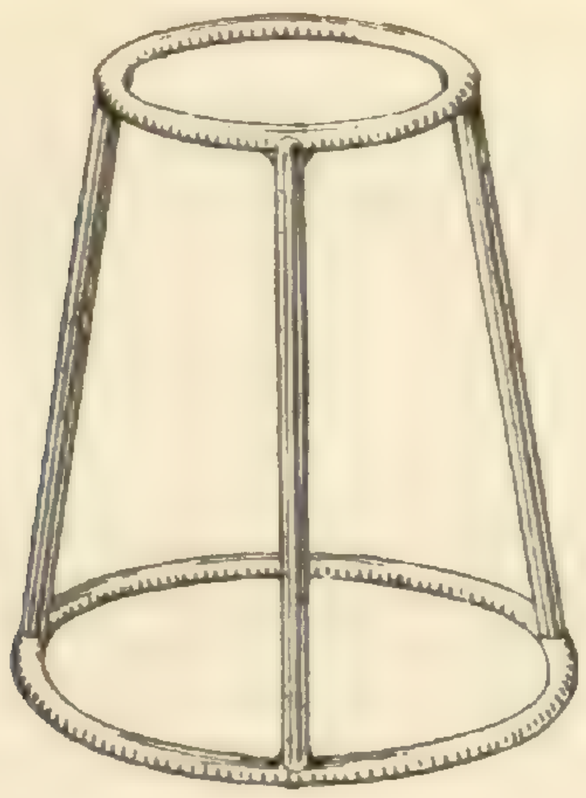

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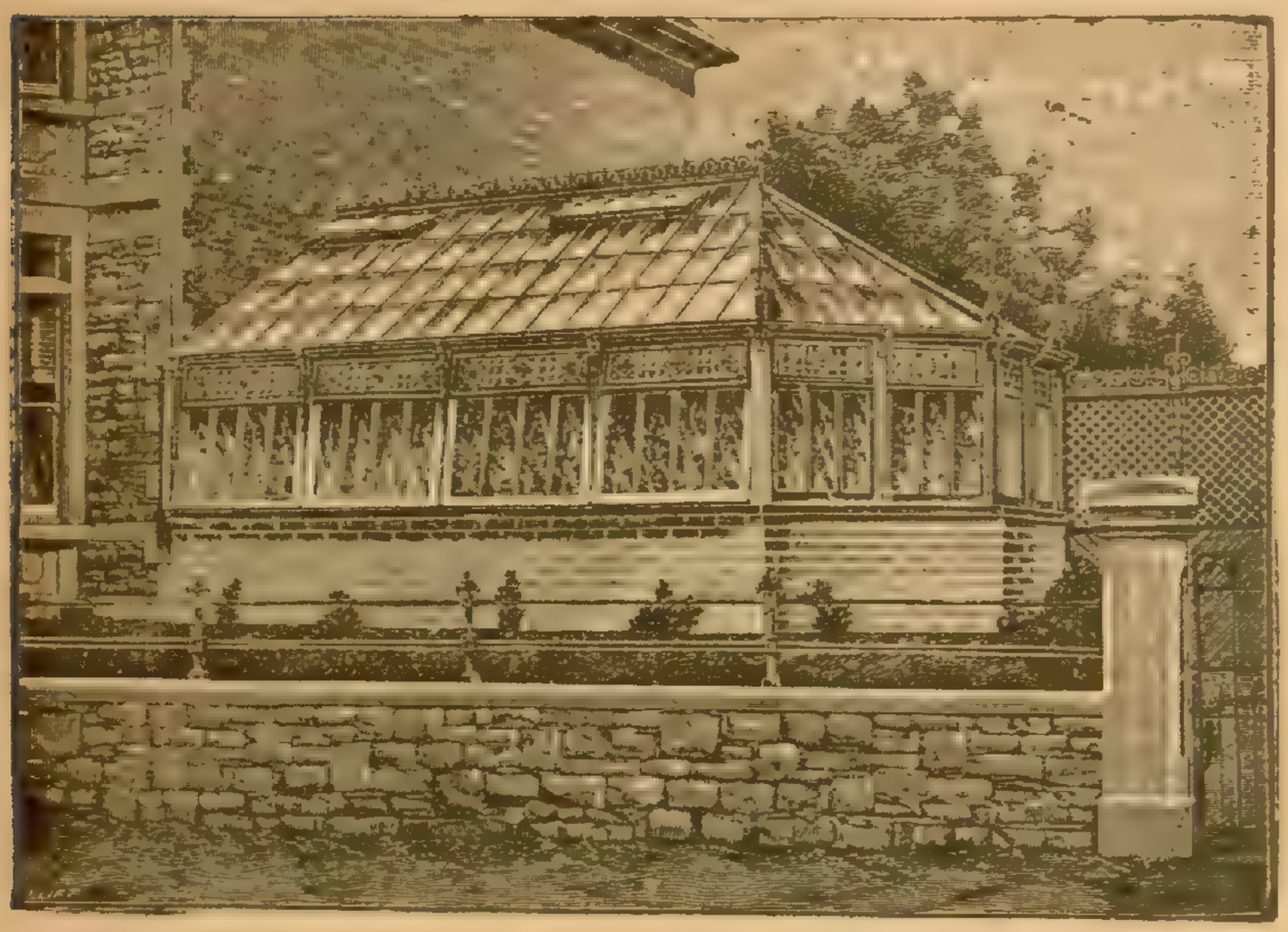

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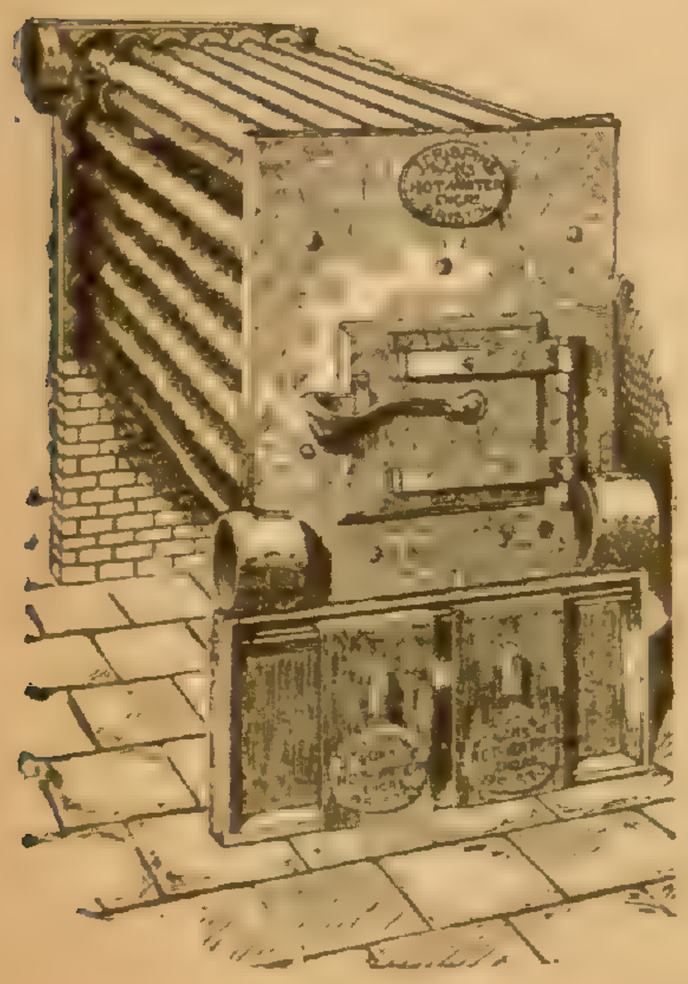

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during May, on the 2nd and 16th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The great annual Show will be held in the Inner Temple Gardens, Thames Embankment, from May 31st to June 2nd, and the Orchid Committee will meet at eleven o'clock on the first day. As on previous occasions, Silver Cups and Medals will be awarded according to merit.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on May 11th. The Orchid Committee meets at noon, and the Annual General Meeting of the Society will be held at 2.30 p.m.

The great Whitsuntide Show of the Manchester Royal Botanical and Horticultural Society will be held at the Gardens, Old Trafford, from May 19th to 25th. Various prizes are offered for Orchids and other plants.

A beautiful form of Cattleya Trianæ is sent from the collection of J. Wilson Potter, Esq., of Croydon. The sepals and petals are white, but the lip delicate blush outside the yellow throat, and thus it comes near the variety delicata, in which the blush tint pervades the whole flower.

Two brilliantly-coloured forms of Masdevallia × Fraseri are sent from the collection of Captain Hincks, Richmond, Yorks., by Mr. Rushton. They are both seedlings from M. ignea Eckhardii crossed with forms of M. coccinea, those known as Lindeni and Harryana miniata respectively. The result of the former cross is a beautiful magenta purple flower with the base of the tube light-yellow, and the latter a deep, rich crimson of equal intensity down to the base of the tube. Another pretty little seedling sent appears to be a form of M. × Stella (M. Estradæ ♀ × M. coccinea Harryana ♂).

A fine raceme of the typical Dendrobium fimbriatum is sent from the collection of G. Shorland Ball, Esq., Ashford, Wilmslow, the flower being deep orange-yellow throughout.

The appearance of a flower of D. nobile Cooksonianum on a plant of the ordinary form is both curious and instructive. Mr. R. Eichel, of Shipley, sends the apex of a pseudobulb bearing two twin-flowered racemes, the upper of which is typical D. nobile, but the other bears both forms, the uppermost of the two flowers being that of the variety in question. Mr. Eichel states that the plant was imported last year, and that he has not met with such a freak before.

A flower of the beautiful Dendrobium × Venus is sent from the collection of F. A. Rehders, Esq., of The Avenue, Gipsy Hill. It is one of about fifty borne by the plant, and measures $4\frac{1}{2}$ inches across its broadest diameter, so that the specimen must have presented a fine sight. It is probably the finest primary hybrid in the genus yet raised, containing the good qualities of its parents, D. nobile and D. Falconeri.

A curious example of fused flowers in the original Dendrobium pulchellum, better known under its later name of D. Dalhousieanum, is sent from the collection of Mrs. Hollond, Wonham, Bampton, N. Devon, by Mr. Stacey. It has two lips and a broad column and anther case, the latter having two hinges instead of one, showing that two anthers are united by their contiguous margins. There is one additional sepal, situated underneath the lip, but all the other parts are as in a single normal flower. With it is sent a fine light pink form of Cattleya Trianæ, with slightly darker lip, and a good flower of Lælia harpophylla.

A photograph of a plant of Odontoglossum Pescatorei showing a rather unusual character is sent by A. H. Hills, Esq., of San Francisco. It is developing a strong flower-spike from this season's bulb, and from the top of last year's bulb a small spike of two or three flowers. The plant came from the Corning collection, and seems to be very strong and healthy.

The bridal bouquet carried by Lady Margaret Primrose on the occasion of her marriage with Lord Crewe on Thursday, April 20th last, was composed entirely of Orchids, marguerites and other flowers, grown by Mr. James Smith, Lord Rosebery's head gardener, at Mentmore.—*Gardener's Magazine.*

A flower of the beautiful Bifrenaria Harrisoniæ is sent from the collection of Mrs. Clarke, of Spring Grove, Isleworth. The sepals and petals are white, the lip mauve-purple, and very hairy, and the crest orange, forming a charming contrast.

A flower of a curiously striped form of Cypripedium × Mrs. Canham is sent from the collection of H. J. Ross, Esq., of Florence. It is analagous with C. × Dauthieri Rossianum, whose history has already appeared in these pages (ii., p. 20).

A curious flower of Cattleya Mendelii, having only two sepals, two petals, and a slender somewhat flattened column with the usual single anther, is sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno. It is said to have shown the same deformity for several successive seasons. It apparently belongs to a batch of plants which has several times been mentioned in these pages (see p. 199 of our last volume), but we cannot suggest the cause.

Flowers of the beautiful Dendrobium × Euterpe, to which an Award of Merit was given by the R. H. S. on March 28th last, are sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It was derived from D. nobile ♀ × D. Wardianum ♂, and thus must rank as a variety of D. × murrhiniacum, which according to the record was obtained from the reverse cross. Mr. White states that he sowed the seed in 1893, and some of the plants have now bulbs nearly four feet in length.

WATERING ODONTOGLOSSUMS IN WINTER.

As you have invited opinions on this subject, I venture to trouble you with my impressions.

Knowing, as I do, O. crispum in its native habitat, the severe ordeal to which it is subject during frequent recurring droughts, I have no hesitation in saying that this plant under cultivation in Europe should be inured during the dark and gloomy winter months to comparatively dry treatment —a realisation, to a certain extent, of the conditions to which it is habituated in a state of nature.

Subsequent to severe drought, the advent of the rainy season starts the plant into growth with spring-like vigour.

Cultivators have it in their power to imitate to a considerable extent the conditions under which the plant is found in a wild state. Then, surely, the time best adapted to resort to dry treatment is during our winter months.

Subsequently, under the influence of long, bright days combined with ample humidity, the plant flourishes under the most congenial conditions. Moreover, in a state of nature, periods of drought have a powerful influence on the early production of flowers. Thus there can be little doubt that on similar lines of treatment under cultivation the plant will be incited to early bloom.

ROBERT THOMSON.

DIES ORCHIDIANÆ.

An esteemed correspondent sends me two cuttings from a recently issued catalogue, and thinks them interesting enough for further comment. The first is as follows :—

"Cypripedium hirsutissimum × Lowii, a magnificent specimen of this fine hybrid, in 14-inch pot, with forty growths and eight or nine flower sheaths, in splendid health and condition. Fifteen guineas."

Commenting on this, my correspondent remarks that "no such cross, so far as he is aware, has yet been recorded, and the raiser must indeed have been hiding his light under a bushel for many years to have let the plant attain to such a size." I think we must have more particulars about it.

The second cutting is :—

"Cypripedium Niobe × Fairrieanum, an entirely new and rare hybrid which has just flowered. The flower is of magnificent form and colour. Painting may be seen of same; a very fine plant, one grand growth. Thirty-five guineas."

This, my correspondent thinks, should be read together with a note at page 27 of the present volume, to the effect that a plant was exhibited at Manchester as Cypripedium Fairrieanum, which the Orchid Committee declined to adjudicate upon, being unanimously of the opinion that it was incorrectly named. This is a point which I cannot decide, not having seen the plant in question, but the species is so distinct from all others, and from all its hybrids, that no one who has once seen it could mistake anything else for it. As to the hybrid, if it is really what it professes to be, it is a very remarkable plant; a secondary hybrid composed of three parts Fairrieanum and one part Spicerianum, and ought to resemble the former much sought for plant more nearly than anything which has yet appeared. Has anyone seen the painting? Or, better still, the flower itself? If the story is correct the raiser is to be congratulated; if not—well, I would rather not say until the facts are proved.

At page 70, I alluded to some recent cases of plurality of names for the same thing, and here are a few examples of the names given to hybrids of Paphiopedilum Chamberlainianum. The hybrid between it and P. Spicerianum was described and figured as P. × Deedmanianum (*O. R.*, vi, p. 49); Cypripedium × scitulum (*Chron. Orch.*, p. 158); and C. × Spicero-Chamberlainianum (*Le Jard.*, Feb. 5, 1899, p. 39). With P. villosum it yielded Cypripedium × Mansellii (*Charlesw. Cat.*, Oct. 1898); C. × villoso-Chamberlainianum (*Chron. Orch.*, p. 159); and Paphiopedilum × Madiotianum (*O. R.*, vii, p. 47). With P. × Leeanum the records give:

Paphiopedium × Chamber-Leeanum (*O. R.*, vi, p. 168); Cypripedium × Leeano-Chamberlainianum (*Le Jard.*, Feb. 5, 1899, p. 39); and C. × Maria (*l.c.*, Feb. 20, p. 64). Surely some of this repetition might be avoided.

A letter from Mr. F. J. Le Moyne, of Chicago, on the Cypripedium question is, unfortunately, too long for insertion in full, but the following extracts will show the substance of his remarks:—Probably nearly all growers welcome the division of this group Cypripedieæ into the four genera which we have begun to use, but is it advisable to change the name of three of them by the addition of an "l" in order to make it agree with the fourth which had the "l" in it from the first? Why not go along the line of least resistance, and drop the "l" in the latter case? And must we, in future, speak about the Cypripedileæ? If so, how about our text books? And is it intended to correct the spelling of all names of Orchids that may be philologically wrong?

I may begin my reply by an expression of satisfaction that we are in agreement on two points, namely, the convenience of the division of the group into four genera, and the desirability of the uniformity of spelling, for some do not admit the former, and rigid adherents of the law of priority object to the latter, and these will not allow the omission of the "l" from Paphiopedilum. As for Cypripedileæ, Pfitzer has used it from the first, and as we all call these plants "Slipper Orchids" in popular parlance, I do not see why there should be anything irrational in using the correct equivalent. I do not think that there are many names which require amendment in spelling, but most adherents of the law of priority permit the correction of an obvious mistake. The text-book objection would apply to all changes whatever, and need not be noticed further.

Things are certainly in a transition state at present, and my own impression on the matter is that the quickest way out of the difficulty will be to adopt the new nomenclature as quickly as possible. It can hardly remain long where it is now, and if those who are convinced that the new views are not so much irrational as temporarily inconvenient will set the example, we may again attain something like uniformity.

ARGUS.

VANDA × CHARLESWORTHII.

ANOTHER very interesting form of Vanda × Charlesworthii has appeared; this time in the establishment of Herr Carl Lackner, of Steglitz, near Berlin. It was imported some years ago with V. cœrulea, from Upper Burma, which it much resembles except in the flowers, which are very

different. They measure 2¼ inches in diameter, and the colour is pale greenish-yellow, with a faint, lilac tessellation all over, becoming more suffused with lilac at the base of the segments and column. The front lobe of the lip is pale greenish-yellow with two rounded apical lobes, the side lobes triangular, the disc with five ridges, and the foot of the column with a dull, maroon-purple blotch, and a broad, deep-yellow, transverse line between it and the column. Thus in shape it most resembles V. cœrulea, except for the apical lobes of the lip, which latter, together with the colour, show the influence of V. Bensoni.

I strongly suspect that the plant described as V. × amœna by Mr. J. O'Brien (*Gard. Chron.*, 1897, xxii., p. 226) is a distinct variety of the same hybrid. It is said to have been "imported by Messrs. Linden, of Brussels, along with V. Roxburghii and V. cœrulea," and was supposed to be a natural hybrid between them. There is, however, the insuperable difficulty that the two species grow in quite different districts, V. Roxburghii being a common plant of the plains of Bengal, and extending southwards to South India and Ceylon. V. cœrulea was evidently one parent, and we are therefore safe in assuming that V. × amœna came home with it. The latter is figured in *Lindenia* (t. 591), and, so far as I can see, the resemblance is rather to the spotted forms of V. Bensoni than to V. Roxburghii. It may be possible to clear this point up in future.

R. A. Rolfe.

CYPRIPEDILUM ACAULE.

This is a highly curious member of the Slipper family which is not at all common in cultivation, though flowers are occasionally seen, and one is sent by Mr. C. C. Hurst, Burbage Nurseries, Hinckley. The front of the pouch is folded in from the sides, and the two margins meet except for a narrow slit about the middle, and they fold in such a way that the sides slope all round and down to the narrow opening. The staminode is very thin and tightly appressed in front to the lip, which is much constricted at this point, and entirely closed. The two basal openings are several times larger than the slit in front. The latter, however, owing to the peculiar conformation just described opens inwards with a very slight pressure, so that a small bee alighting on the pouch and making for the opening would readily find ingress, but could not return, and must leave by way of the basal openings after first passing the stigma, and then getting besmeared with the sticky pollen. The second flower visited must inevitably become fertilised, but self-fertilisation is effectually prevented except in the very unlikely event of the bee returning a second time to the same flower. It is not an easy plant to cultivate for long together, but when seen at its best it is a very distinct and striking plant.

THE HYBRIDIST.

EPIDENDRUM × BURTONI.

FURTHER examples of this handsome hybrid, whose history was given at page 73 of our March issue, were exhibited by F. M. Burton, Esq., at the meeting of the Royal Horticultural Society held on April 18th. Two racemes, the best, bearing twenty-eight flowers, were much like the original form, being shades of orange-scarlet. A third, called var. pallens, had the sepals and petals pale salmon-coloured and a light yellow lip, while a fourth may be described as deep rose, slightly inclining to purple, and may be called var. roseum. This was a particularly brilliant form, the raceme bearing thirty flowers, mostly expanded, of over 1½ inches in diameter. Only one of the plants was shown, which had the advantage of being dwarfer than E. × O'Brienianum, one of the parents. The amount of variation is what might have been expected in a secondary hybrid, and there are other plants yet to flower.

ODONTOGLOSSUM × SPECTABILE.

This is a specific name selected for the beautiful hybrid between O. crispum and O. Harryanum, which has hitherto been known under the joint names of its two parents, O. × crispo-Harryanum, under which name it received a First-class Certificate at the last Temple Show, and was described at page 170 of our last volume. It is one of three seedlings with which M. Ch. Vuylsteke carried off the President's prize for new Odontoglossums at an exhibition of the Royal Horticultural Society of Antwerp, held on April 9th last. A second was var. vivicans, in which the markings were red-brown rather than violet-brown in shade. It is very beautiful, and other varieties will probably appear as more seedlings reach the flowering stage. A seedling noted at page 259 of our last volume as derived from the reverse cross, will, of course, rank as a variety of O. × spectabile.

PAPHIOPEDILUM × OLLENDORFFII.

A flower of the hybrid bearing the above name is that sent by Herr G. Beyer, Orchid grower to Baron Ollendorf, Hamburg-Hamm, Germany. The parentage is P. × Harrisianum × P. hirsutissimum, and the flower shows very well its origin, being intermediate in shape, but most like the former parent in colour. The dorsal sepal is ovate, two inches long, and somewhat twisted, the colour very dark shining brown on the lower half, passing to green at the apex, and margined with white. The petals are 3 inches long, and the lip measures 2¾ inches, both much resembling the seed parent in colour. The staminode is roundish, with an oblong, deep olive-green tubercle in the centre. The dorsal sepal is rather small in proportion to the rest of the flower. It has received a First-class Certificate from the Hamburg-Altonare-Gartner-Verein.

Dendrobium × Berkeleyi.

At page 317 of Hansen's *Orchid Hybrids* is mentioned a Dendrobium × Cassiope ♀ × Wardianum ♂ "under raising" with Major General E. S. Berkeley, of Southampton, in 1895. It has now flowered, and a specimen is sent by Mr. J. Godfrey. In shape and size the flower is most like D. × Cassiope, but the sepals, upper half of the petals, and apex of the lip, are suffused with light rosy purple, and a deep yellow band occurs between the maroon disc and the nearly white margin. Another seedling purchased by Captain G. W. Law-Schofield has flowered, and is white with rose-purple tips to each of the segments, and a blotch on the disc instead of maroon, and without any yellow. A flower is sent through Mr. Godfrey. Other seedlings are in existence, but only these two are known to have flowered, and they are at present small and undeveloped. Mr. Godfrey wishes it to bear the name of his late master.

Dendrobium × Thompsonianum.

This is a large and striking hybrid, raised by Mr. Holmes from Dendrobium nobile Cypheri × D. × cheltenhamense, of which flowers have been sent by Mr. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone. The flower measures over three inches across the expanded petals, the latter organs being seven-eights of an inch broad. The ground colour is blush-white, tipped with light rose-purple, which colour shades off somewhat irregularly into the white ground. The expanded lip is $1\frac{1}{4}$ inches broad, and has a small crimson-maroon feathered disc, passing into crimson lines behind; this is surrounded by a very broad yellow zone with a white margin and a small rose-purple tip. The pollen parent has exerted a strong, modifying influence, especially in colour, and the strong yellow zone and reduced disc, as compared with D. × Ainsworthii, shows that the influence of D. luteolum coming through the pollen parent has not been lost.

ORCHIS LATIFOLIA ALBA.

Albinos of British Orchids are occasionally seen, and we have met with white examples of O. mascula, Morio, and maculata. Mr. H. Rider Haggard, in a series of articles in *Longman's Magazine*, describing a year's work on his farm at Bedingham, Norfolk, records a white form of O. latifolia:—

"The finest specimens of purple orchis that I have ever seen grow in Websdill Wood, on my farm at Bedingham. Spotting the grass in this oak-shaded pasture, I found many splendid specimens of Orchis latifolia; indeed, in half-an-hour I gathered as large a bunch as I could bind round with my handkerchief. Among them I found one pure white bloom, which

shows that the tendency among Orchids to produce an occasional albino is not confined to the tropical varieties. It is these albino sports that, in the case of Lælias, Cattleyas, etc., command such great prices among the wealthier members of the Orchid-loving fraternity. I fear, however, that they would not give me much for a pure white latifolia."

The following note respecting the habitat of the species and its attempted culture are also interesting :—

"I found a patch of the wild purple orchis flourishing quite under the shadow of the trees, in the fell indeed. As might be expected in that situation, they were very pale in colour, but being exceedingly conspicuous, as are most of the Orchid tribe, tropical or European, they caught my eye at once. This Orchid, like all its relations, is very fastidious as to its habitat. My observation of it goes to show that, although it flourishes in certain old meadows, generally with a rather heavy soil, it does best where it is partially, but not altogether, overshadowed by trees and on a stiff clay. Some years ago, I dug up several clumps of these plants, and set them out again in this garden, imitating the conditions in which I found them as regards soil and situation as nearly as possible. They have come up every spring and bloomed after a fashion, but I cannot say that the experiment was successful. I have also tried transplanting the bee-orchid, of which, although it is very rare in these parts, a few roots grow, or used to grow, in a certain marshy spot at the foot of the Bath Hill. Now I wish that I had left them alone, for although I took every care, even to removing a large sod of their native soil, and wiring them round, from that day to this, they have never shown a single leaf."

FREAKS AMONG ORCHIDS.

Freaks and malformations are rather common among Orchids, and, though seldom beautiful, are often interesting from the light they throw on the modifications which the flowers have undergone. It is interesting to note that every one of the organs which appear to be missing in normal flowers have re-appeared in one form or another among these freaks.

A most interesting flower of Cattleya Schrœderæ is sent from the collection of R. B. Macbean, Esq., of Lancaster, which appears to have one small lip within the other, the shape, colour, and texture being quite similar, but shorter and slightly over an inch broad. On bending down the normal lip, however, the additional one is seen to proceed from the face of the column, just below the stigma, and evidently represents the median stamen of the inner whorl (a 3 of the Darwinian notation). Every other part of the flower is unaltered, including the anther and column

wings. Why this normally suppressed organ should in this flower have developed as a petaloid staminode we cannot say, for another flower sent is normal in every respect. Had it developed into a perfect anther with pollen the reversion would have been complete, but in any case the example is interesting and instructive. From a florist's standpoint it must be regarded as a case of partial doubling.

A flower of Paphiopedilum Boxallii is sent by Mr. C. C. Hurst, Burbage Nurseries, Hinckley, in which the lip is curiously abnormal. One of the side lobes, though lip-like in texture, has developed as a small petaloid staminode, only adnate to the median petal at the base. The other side lobe has developed as usual, but is adnate at its base to the side of the column, and smaller than usual. The lip is thus partially broken up into its three component parts.

A flower of Dendrobium Wardianum, from the collection of J. U. Hodgson, Esq., Higher Bebington Hall, near Birkenhead, has the two petals apparently suppressed, though in reality confluent with the lateral sepals, giving the flower a very curious appearance The other two flowers of the raceme are normal.

DENDROBIUM NOBILE SEEDLINGS.

SOME very interesting seedlings of Dendrobium nobile are sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne. One is D. n. burfordiense, raised from D. n. Cooksonianum ♀ × D. n. burfordiense ♂, which practically reproduces the latter. Mr. Cookson remarks that none of the seedlings from this batch showed any trace of Cooksonianum, but whether any reverted to normal forms is not stated. The other three flowers are from D. n. nobilius ♀ × D. n. Cooksonianum ♂, one being identical with the pollen parent, one a well-coloured typical D. nobile, and the third has the sepals and petals irregularly marbled with purple on a lighter ground, but is normal in other respects. This character is constant each time of flowering. All these three, Mr. Cookson remarks, are out of the same seed-pod, and are out of the lot previously recorded in this work (vol. iii., p. 168). Both D. n. Cooksonianum and D. n. burfordiense are technically freaks, and it is interesting to know that they can be reproduced from seed in this way. What is the precise *cause* of their peculiar character we do not know, but suppose it to be due to some re-arrangement of the vascular bundles of the suppressed anthers. It is noteworthy that the seedlings are not intermediate in character; they either reproduce the sportive character or revert to the normal, and as the markings are similar to those of the normal lip it is safe to infer that they have a common origin.

INDIAN NOTES: CALCUTTA FLOWER SHOW.

It may be interesting to readers of the *Orchid Review* to hear how the cultivation of our favourites is carried on out here, and also what could be seen at the last Calcutta Flower Show, organised by the Agri-Horticultural Society of India, and held on the 17th and 18th of February.

Although very early in the year, Orchids were fairly well represented, and it was only regrettable that the Show was not held a month later, so as to enable the exhibitors to have a finer display. It must be borne in mind that the Orchids which thrive successfully under our Calcutta climate are limited in number, and that nearly all flower during the first part of the year. We are not so well off as many Orchid growers at home would think, and we cannot so easily obtain Orchids in bloom all the year round.

Only one or two small groups were shown separately, the others were dispersed amongst foliage plants, etc. Cypripedieæ were represented by four distinct species, amongst them being a splendid form of C. callosum, which attracted many people, two well-flowered specimens of C. concolor and niveum, as well as a very valuable form of C. Exul.

Several well-known Phalænopsis were to be seen, and we may remark that they seem to be great favourites with Calcutta amateurs, P. Schilleriana especially, bearing spikes with twenty flowers and buds, and leaves measuring from 18 to 20 inches long by nearly four wide, which would do credit to a European grower. P. amabilis were also good.

Among Cattleyas, which are extremely difficult to cultivate here, we noticed some of our old friends, C. Trianæ, C. Percivaliana, and a pretty good specimen of C. Lueddemanniana. Dendrobes were represented by a few varieties, among which several good forms of D. nobile, primulinum, as well as the dwarf D. aggregatum, etc., were noticed.

We also found a poor specimen of Angræcum sesquipedale, bearing a good-sized flower, and we heard that in the case of well-grown plants, they do not flower here. Oncidium ampliatum majus was the only representative of that new world genus, so rich in species. A few forms of Hæmaria Dawsoniana were also exhibited.

This, unfortunately, ends our little description, but we ought to mention that the cultivation of Orchids here only now begins to attract much attention, and we shall probably be able now to notice every year their improvement.

In conclusion, if some of the plants exhibited were not what they might have been, it may be mentioned that the general climatic conditions of the two preceding months partly account for it, for January was pretty cold and many were the plants which suffered besides Orchids.

We sincerely congratulate Mr. Lancaster, the Secretary, and Mr.

Gosselier, the Superintendent of the Society's Gardens, to whom belong all the credit of this handsome little Show, and we must not omit to say that His Excellency Lord Curzon was among the distinguished visitors.

We hear that an Orchid Society, under the name of The National Orchid Society of India, is being organised, at the suggestion of Mr. P. S. Chatterjee, the well known Calcutta nurseryman. The principal object of this Society will be to spread the taste for our favourites amongst Indian amateurs, and we can only hope that Mr. Chatterjee's attempt will prove successful.

A. GRIESSEN.

The following particulars, taken from circulars enclosed, may interest our readers:—

PROSPECTUS OF THE NATIONAL ORCHID SOCIETY, CALCUTTA.

THE object of the Society is to encourage the cultivation of this wonderful genus of plants, by holding Exhibitions and distributing handsome prizes to the growers of the best specimens, and thereby make the unacquainted public of India familiar with and appreciative of the beauties of "The Flower of the Age."

As at present its cultivation is very limited, it is advisable to hold at first a General Flower Show, including in it Orchids, but eventually efforts will be made to bring Orchids into prominence, by the Society holding its exhibition in different parts of India in connection with some Provincial Flower Show.

The inaugural exhibition will be held at the Victoria Nursery, from March 6th to 8th next, with Mr. S. P. Chatterjee's Annual Orchid Show, as a tribute to our popular and esteemed Viceroy and Vicereine.

The sympathy and co-operation of all persons interested in horticulture are earnestly solicited.

Subscription, 10 and 5 rupees per year. Donor of 100 rupees and upwards will be life members, and will enjoy all the privileges of first-class members. Foreign members subscription five shillings per year.

First-class members will be entitled to six admission tickets to any of the Society's exhibitions. Second-class members will be entitled to three tickets of admission. Foreign members will be entitled to all the publications of the Society free. All publications of the Society will be distributed free to all members.

It is intended to start a Horticultural Library in connection with this Society (as funds will permit), and members of the Society will be entitled to the use of the library, and take loan of books and papers according to the rules and bye-laws to be framed hereafter.

The members of the Society will be called F.N.O.S.

The Society is under the patronage of His Excellency Sir William

Lockhart, G.C.B., G.C.I.E., Commander-in-Chief of Her Majesty's Forces in India; His Honour the Honourable Sir John Woodburn, K.C.I.E., C.S.I., Lieutenant-Governor of Bengal, and the elite of the Calcutta society, and the principal Indian chiefs and nobles interested in horticulture.

The following is the schedule of prizes (omitting those for foliage plants, annuals and roses) :—

One Gold Medal for the best and the largest collection of Orchids in flower tastefully arranged with ferns, presented by Kumar Satish Chandra Sinha, Bahadur (Paikpara Raj.).

One Gold Medal for the largest collection of Phalænopsis in flower tastefully arranged with ferns, presented by Baboo Dooly Chand.

One Silver Medal for the best and the largest collection of Cattleya in flower tastefully arranged with ferns, presented by Baboo Joy Gobind Law, C. I. E.

One Silver Medal for the largest and best collection of Phaius in flower tastefully arranged with ferns, presented by R. Mitter, Esq., Barrister-at-Law.

Prizes of 10 rupees each are also offered :—For 4 well-grown dissimilar kinds of Phalænopsis in flower ; for 6 Dendrobiums ; for 4 Ærides ; for 4 Vandas ; for 4 Cypripediums ; for 3 Phaiuses ; for 4 Cattleyas ; for 3 Cymbidiums ; for 3 Dendrobiums ; for 3 Oncidiums : for 3 Laelias : for 3 Odontoglossums ; for 3 Calanthes ; for 4 Saccolabiums ; for any best well-grown single specimen. In the last class a second prize of 5 rupees is offered.

DENDROBIUM WARDIANUM AS A SEED-PARENT.

THE question of successfully hybridising Dendrobium Wardianum was raised at page 82 of our March issue, and the following note from Mr. James Godfrey, Orchid grower to the late Major-General Berkeley, of Bitterne Park, Southampton, shows that Mr. Carr's experience is not an isolated one :—

"I may say that I have tried Dendrobium Wardianum as a seed-parent scores of times, but always failed to get a capsule upon it. The only time I got the flower to set was when the growth was hanging downwards. I am inclined to think that the cause of failure is that the plant starts a new growth, which takes a certain amount of sap out of the flowering bulb, and also the absence of young active roots at that time. I have rubbed the young growth off, but with the same result. When there is a possibility of getting the roots active at the time of flowering, then there may be a chance of success."

JAMES GODFREY.

CONTINENTAL NOTES.

On calling at the establishment of M. Peeters, 62, Chaussee de Forest, Brussels, the other day to see the Orchids, the most noticeable plant in bloom was Eulophiella Peetersiana, with a spike of 6 feet high, and a compact cluster of 26 flowers, each single flower something like a fine, broad petalled Cattleya Harrisonæ. It was, if I remember right, very much lighter in colour than Sir Trevor's plant exhibited last year, having more of a purplish rose, and much more compact in the cluster, the flowers touching each other. It is a grand plant for a large Orchid house, having a most imposing appearance and seemingly quite easy to grow in the Cattleya house.

The Odontoglossums were, as usual, doing remarkably well; in one house I computed there would be quite 2,000 spikes coming on, and also two other houses full of later spikes, with numerous houses all full of crispums, but later in growth. The Cattleyas were looking well, but not much was in bloom at the time of my visit.

Odontoglossums at Loochristy, Ghent.

The most interesting plants to me were the seedling Odontoglossums raised here, some few of which were in bloom. Of O. × loochristiense (triumphans × crispum) one or two were flowering, but I cannot say I care for it, the flowers being too narrow in the segments, but a beautiful yellow colour, with a few spots on the sepals and one or two on the petals. The most remarkable was O. × Rolfeæ, the Harryanum, and Pescatorei cross, three or four of which were in bloom, and form a beautiful addition to the group. The flowers have a creamy white ground, with the purple markings cut up in a most curious way, each flower spike having a distinct pattern of its own, but I think one of the best is still the original Rolfeæ. When put into commerce, Odontoglossum growers will have a new feature in their houses.

Messrs. Sander's, Bruges.

This establishment bids fair to rival the St. Albans Nursery in size and compactness. Of course the Azaleas, Palms, &c., of which we cannot take any note, occupy the greater part of the nursery, and the arrangements for watering and attention are well carried out in every detail to save labour. One Orchid house was filled with the finest lot of Lælia purpurata I ever wish to see, strong and robust and full of sheaths. The Odontoglossums are not large in size, but houses full to overflo w ing with healthy, good stuff that gives evidence of good systematic culture.

S.S.

ORCHIDS IN SEASON.

OWING to the large number of showy hybrids now in existence, Dendrobiums are becoming increasingly useful as spring flowering plants, and for several weeks they have made a brilliant display. D. × Wiganiæ is a very beautiful addition to the list, combining as it does the characters of D. nobile and the yellow D. signatum. Some excellent flowers of it are sent from the collection of Sir Trevor Lawrence, by Mr. White. The variety xanthochilum, to which an Award of Merit was given by the R.H.S. on March 14th, is very distinct on account of the amount of yellow on the lip. D. nobile keeps up the display better than most species, because large numbers are grown and the plants are brought into heat in succession. Many beautiful forms have appeared among the recent importations, from pure white up to deep rose-purple. The extreme forms are, of course, rare, but those nearer the type also vary considerably among themselves, and examples are sent from several collections in illustration of this point. A series of about a dozen flowers from the collection of W. Thomson, Esq., form a charming little group, and include another example of the pure white D. n. virginale, which, like those mentioned at page 98, has flowered out of a recent importation. The pretty little D. × Wiganiæ was also enclosed. A flower of D. nobile from the collection of R. I. Measures, Esq., of Camberwell, is remarkable for the long, rather loose sepals and petals, and the unusually tubular lip. The bulbs also are rather long. It came out of one of Mr. J. W. Moore's importations.

Odontoglossums are now in season, and rank as favourites with most Orchid growers. O. crispum may be mentioned first, for this species and its hybrids undoubtedly form the chief centre of interest. The richly-blotched and suffused crispums are becoming increasingly numerous, and will probably continue to do so, for all are taken care of, and they vary enormously among themselves. It is remarkable what a number of hybrids, particularly forms of O. × Andersonianum, keep flowering out of importations of O. crispum, and some of them are very beautiful. Four different forms are sent from the collection of B. Brooman White, Esq., of Arddaroch, one having numerous dark chestnut spots on a cream ground being near the original type. Another, called Arddarroch var., which has been previously noted, is more heavily spotted and the ground somewhat suffused with purple. Two others come nearest the variety Ruckerianum. A clear, light yellow, unspotted form from the collection of James Davidson, Esq., Dumfries, is very striking. There is a faint suffusion of rose in the sepals, and a few brown streaks on the stalk of the lip. A second form which has flowered is more suffused and somewhat spotted. Mr. White also sends a good, well-marked form of O. × Coradinei, O. crispum prettily suffused

with rose, a good O. gloriosum, a very large and handsome form of O. triumphans, and O. Rossii majus, prettily suffused with lilac and measuring $3\frac{1}{2}$ inches from tip to tip to the petals, the whole forming a very charming little group.

O. Hallii is flowering finely just now, and half-a-dozen flowers from different plants are sent from the collection of Joseph Broome, Esq., Llandudno. They vary much in size and markings, and one has a white lip with three irregular blotches round the crest, while the rest have yellow lips, more heavily marked. A raceme of the rare little O. crinitum is also sent. It is remarkable for having the whole disc of the lip densely covered with long, spreading, branched, hair-like filaments, nearly white in colour.

Two fine, round forms of O. × excellens are sent from the collection of W. Thompson, Esq., Stone, one being darker in colour and more heavily marked than the other. Both are very beautiful.

FEEDING ORCHIDS.

With reference to the question of feeding Orchids (*Orchid Review*, vii. 109), I may say that for several years, commencing before I knew of Dr. Smee's views, I have used ammonium phosphate and potassium nitrate (saltpetre), and have great belief in its value, if care is taken. I find a simple plan is to prepare a lot of packets each containing three ounces of potassium nitrate and two ounces of ammonium phosphate. As required, one of these is dissolved in a three gallon jar of soft water.

In watering *any Orchids* when making their growth or flowering, one ounce of the solution is added to each gallon of the water used for watering. The trouble is almost nil, and there is no risk of using an excessive quantity, as the gardener has by him always a measure which exactly holds the required quantity for each can-full. I have no doubt whatever that potash and phosphoric acid are absolutely necessary for Orchids, and I think the results prove the value of applying them.

Norman C. Cookson.

[We are pleased to find that this question of feeding Orchids has taken such a practical form. The quality of Mr. Cookson's Orchids is well known, and the fact that he finds this practice beneficial is significant. We should, however, like to see a few selected plants tried with and without feeding for a couple of seasons, the treatment being identical in other respects, for it has so frequently been stated that manure in any shape or form is injurious in the long run, that we should like to see the matter thoroughly tested, especially upon Orchids which have a tendency to deteriorate under cultivation.—Ed.]

PAPHIOPEDILUM NIVEUM.

THE annexed figure represents a plant of the charming Paphiopedilum niveum, from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. Mr. Wrigley writes that it was purchased from Messrs. Hugh Low and Co., from a batch of newly-imported pieces, and had been in the collection for about two years when it flowered, and the photograph was taken. It produced three twin-flowered racemes, the flowers being about 2 inches in diameter,

Fig. 11. PAPHIOPEDILUM NIVEUM.

on stalks 10½ inches high, from the rim of the pot." He further remarks :—"As my method of culture for this section of the genus (including bellatulum, niveum, concolor, Godefroyæ, and its variety leucochilum) may differ from that of most growers, I will attempt to describe it as shortly as possible.

"My plants are grown in pots as small as the size of the plant, and the

quantity of its sound roots will allow, for over-potting is most injurious to these plants, as it is to most, if not all, Orchids. Broken limestone is used instead of the ordinary earthenware crocks, and the plant really grows on this rocky base, for its rhizomes are placed in contact with the stone, and its roots built into the rockwork, until the pot is completely filled with stone from the bottom to the rim of the pot. Only a very small quantity of the most fibrous loam is used to surface the pot and to wedge the plant and loose stones firmly in their positions. This loam can have no appreciable influence on the growth of the plant, owing to its being so small in quantity. The plant lives and grows mostly on atmospheric moisture, and also on the moisture absorbed by the pot, and the limestone, whenever the pot is dipped. This dipping is most carefully done, and only when the condition of the pot shows that the plant requires it, the greatest possible care being taken not to immerse the axils of the leaves or to allow the slightest moisture to lodge in any of the growths, young or old, or they will certainly rot off.

"I possess about one hundred plants of this section, large and small. They are not newly-purchased, but have all been in my collection for several years, and have never got into a bad state of health, as is often the case.

"My plants are grown in two houses, with the other heat-loving Cypripedes—the one a lean-to facing east, and the other a span-roof with an east and west exposure, and they seem to grow equally well in either house. The temperatures of both houses are practically identical. The winter temperature, by pipe heat alone, is kept as nearly 65° Fahr., as a maximum, by day, and 60° to 62°, as a minimum, at night. In summer the maximum temperature, from pipe heat, is raised to 70° by day and 65° at night, bnt during the warm and sunny weather the maximum day temperature is often 80°, in spite of double blinds and the freest possible ventilation.

"In conclusion, I may remark that growers of these lovely Cypripedes, as a rule, destroy their plants by over-watering, careless watering, and by want of attention to the atmosphere in which their plants live. Moisture is certainly necessary for the growth of all Orchids, but more Orchids are destroyed from an over-supply than from the want of it."

The photograph certainly shows the plant to be in robust health, and when thus grown it is one of the most beautiful species in the genus. A few of the lower leaves have been omitted from the reproduction, and it may also be added that the photograph has been rather over-exposed, in order to bring out better the details of the flower.

CALENDAR OF OPERATIONS FOR MAY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE following are temperatures most suitable for the present month and throughout the summer :—

COOL HOUSE.—This should now be kept as cool as possible, both night and day. Ventilate freely on all occasions, distribute plenty of water about to produce a moist atmosphere, and shade from strong sunshine.

INTERMEDIATE HOUSE.—This department may now range from 70° to 80° during sunny, warm weather ; in dull weather from 65° to 70° ; night, 60° to 65° ; morning, 55° to 60°. Ventilate judiciously to keep the atmosphere pure and fresh, and damp down the floors, &c., two or three times daily, also shade from the bright, hot sun to prevent scorching or blistering of the leaves. Very little fire heat should now be needed, except perhaps on a particularly dull and cold day or night, when the pipes may be made luke-warm with advantage.

EAST INDIAN OR WARM HOUSE.—This may now range by day from 80° to 90° in warm weather, with air, and from 70° to 75° in dull weather ; and at night from 65° to 70°, falling to about 60° by the morning. Here also never miss a favourable opportunity to ventilate. Shade during the brightest part of the day and maintain ample atmospheric moisture.

We are now entering on the growing season, and now that the days are long and the sun powerful, there should be no difficulty in creating conditions highly suitable for free and rapid growth. This is exactly what is wanted, for on no account must we now starve them by omitting to supply plenty of warmth, air, and moisture. Water well at the root when necessary, and use the syringe freely once or twice a day. Give the warm and intermediate kinds their fair share of warmth, especially during the day, and temper with a reasonable amount of fresh air.

We shall still be very busy with the re-potting. top-dressing, and general smartening up operations—the first because the plant has either out-grown its pot or the compost got into a bad, sour state ; the second because the surface of the compost has got into a crusted condition through which air and water are unable to pass freely, and therefore requires to be loosened up and re-surfaced with fresh sphagnum ; and the third because a stick and a tie wherever wanted gives a neat and tidy appearance, and a wash over with the sponge cleanses the foliage and pseudobulbs from dust and insect pests, thus enabling the plants to start on the growing season in a comfortable and promising manner.

As the Cymbidiums pass out of bloom their wants in the above mentioned items should be attended to. C. Lowianum, giganteum, and Tracyanum grow very vigorously in the coolest house, in fact the whole of the other

kinds also grow well there, but are better for intermediate treatment during the winter and spring months. They delight in what is, for an Orchid, a comparatively rich compost, but if loam is used it should be of the best fibrous nature. Personally I use but little loam now, as I think after a good deal of experience that three parts of good lumpy peat and one part of chopped sphagnum moss answers the purpose admirably, and does not get eventually so close and hard as loam, especially if the former has a little broken charcoal mixed in, which should always be done. The roots of Cymbidiums are large and fleshy, and they therefore prefer a moderate amount of pot space in which to ramble. This should be borne in mind when they require repotting, and pots of a reasonable size should be selected, so that they may go on for a reasonable time without root disturbance being again necessary. It is best to drain the pots one third only, thus allowing more room for the compost and roots. After repotting keep the plants moderately well shaded and moist, but avoid getting the new compost too soddened for a time until the roots make a fresh start.

Cattleyas which were previously re-potted are now making new roots freely and seem to greatly relish the fresh live sphagnum and new peat. These may now have water supplied more freely without fear of the old roots rotting off. Look over the remainder regularly, also the Lælias, so that the best time for attention does not pass by. Catch them just as they start into new growth, and before the new roots have got too far advanced. After repotting give them a little extra shade for a time, and use the syringe about them pretty freely, which will prevent shrivelling and an unnecessary loss of foliage, and promote renewed root action.

Cattleyas and Lælias closely follow those species previously mentioned, the Mexican house Orchids, as lovers of light and air, but few however will stand such fierce sunshine as Lælia anceps without being burned or otherwise disfigured. Still there is no doubt that if Cattleyas are to be grown thoroughly well they must receive plenty of light, by being placed near the glass of the house, which in its turn must be well ventilated, and receive an abundance of atmospherical moisture during summer.

Cattleya Warscewiczii often perplexes and disappoints the grower in the matter of blooming. A certain percentage of them seem to be naturally shy bloomers, and nothing seems to alter this character. All that I can advise is to grow them as strongly as possible, resting them well, of course, but without going to extremes, for under such treatment they flower as quickly as any way. Others of this species flower freely enough, and just as easy as any other kind. They may be re-potted immediately the new pseudobulb has completed its growth.

Cattleya superba and C. Eldorado come from a slightly lower altitude, and although they will generally grow pretty satisfactorily in the average

Cattleya house, they usually do better in the Stove or East Indian house, where there is a little more warmth. They also grow better if given larger supplies of water, in fact the compost in which the first-named is growing may be simply drenched during the whole of the growing season, the plant seeming to greatly appreciate such treatment. On this account they, together with C. Aclandiæ, are best accommodated in teak-wood baskets and suspended, as the air can then circulate round the roots, and naturally counterbalances the extra supplies of water, thus preventing possible ill-effects. C. Lawrenceana seems to be getting rather scarce. This may also be classed as a warmer growing Cattleya than the majority, and is fond of plenty of moisture.

Some few of the late blooming Dendrobiums still remain to be done up and put in growing order. I have before advised that these should be kept to small receptacles, especially the rare hybrids, as a large mass of compost about their roots is particularly distasteful to them. They greatly appreciate an abundance of moisture when growing, but they like to cast it off quickly, and this they are unable to do if over-potted. When re-potting, the plant should be firmly secured, either by sticks or by tying the pseudo-bulb to the wires of the pan or baskets, but the compost is best laid in lightly about the roots, so that the air can pass readily through. Unless one has the convenience of the roof space of an East Indian house the successful culture of the beautiful D. Phalænopsis seems almost futile to attempt, but with it its cultivation is tolerably easy. The present is a good time to do them up. They seem to succeed best if re-panned annually, or at the longest every two years. They should always be kept in small pans, firmly secured but potted lightly as before described, and afterwards suspending them in a light, hot position on the roof, giving liberal supplies of water when renewed activity of the roots and growth sets in, until their flowering season. These remarks also apply to D. superbiens and D. bigibbum.

D. Bensonæ is a species rather difficult to manage for any length of time, though it generally grows very well for the first year or so. I daresay there is a right way to grow it continually in a flourishing condition, though I have not yet discovered it. If anyone else has, they would do well to communicate the same to the readers of the *Orchid Review*, and many, I believe, would be grateful. I am still experimenting, and hope soon to solve the secret. Suffice it to say at present that it points in the direction of our having given either too much heat or insufficient air, and perhaps both.

The Cool or Odontoglossum house will now soon be gay with flowering plants. O. crispum is pushing up spikes, which are opening in quick succession. It should not be forgot that this month of all others is the

best possible in which to re-pot this particular species. All, therefore, that require it, should be taken in hand immediately after blooming is past, and the new growth appears, and they then recover much more quickly and with less shrivelling of the pseudobulb than at any other time. These remarks also apply to other Odontoglots of similar growth, as O. Pescatorei, O. triumphans, O. luteopurpureum, and all their hybrids. In fact a great effort should be made some time during this month, and the earlier the better, to go through everything in this department in the shape of either Oncidium or Odontoglossom that is in the right or proper condition. All are best suited with peat and sphagnum in equal proportions, the pots or pans being drained about one half with crocks or rubble broken up rather finely.

As regards methods, some experienced growers elevate their plants considerably above the rim of the pot, raising the compost up carefully in a conical shape to the base of the leading pseudobulb, on which the latter rests secure and stable. But for an amateur or a new beginuer, I would suggest it as being generally a safer plan to pot lower, that is to say, to place the leading pseudobulb on a level, or only slightly above the rim of the pot. The potting then is done with greater ease, much more quickly, and the plant more likely to be secure and able to make the best use of the roots. On the whole, the chances with an amateur are in favour of the last method of potting rather than with the former. In all cases of re-potting, water must be applied to the compost very carefully for a few weeks; the surface, however, and the immediate surroundings, should be kept continually moist by the aid of the syringe.

In the Intermediate house many species will also claim our attention. Miltonia vexillaria is now in full bloom, and a beautiful show it makes when both light and dark forms are represented. Care should be taken not to let the spikes stay on the plants too long, especially if not well rooted and strong. If these were not attended to early in the new year, as then advised, they should have everything necessary done directly flowering is over, for they immediately start again to grow. Some growers fail to appreciate the beauty of M. vexillaria, but I have never heard anyone say one word against that little gem, M. Phalænopsis, which should also be in bloom this month. This little beauty certainly repays for growing as well as possible. The Intermediate house suits it best; in fact, it requires the same treatment as M. vexillaria, except, perhaps, that it is better to grow it in shallow pans or baskets suspended from the roof. From now, throughout the summer, it delights in a liberal supply of water—that is, of course, if the roots are in good, sweet compost, and if not it should be immediately supplied, as it is most sensitive in this respect—but towards winter the supply should be greatly lessened, and it should be kept

moderately dry until the spikes are to be seen showing during the following spring; otherwise it will not flower well and black spots are apt to appear on the foliage and pseudobulbs. During the depth of winter it is always advisable to place it in a warm and dry position in the warmest house. Most Miltonias are the better for this extra warmth during the worst winter months, and this is markedly so in the case of M. spectabilis and its varieties, which are practically always growing and in an active state. I always think they are best if grown in baskets and in nothing but good fibrous peat.

Odontoglossum hastilabium is a magnificent species when flowering from strong, well-grown plants. It is one which, like a good many others of the genus, grows capitally in some Cool houses but not in all; in fact, it is what we might term a warm Cool house species, and a cool part of the Intermediate house would be the most likely place to suit it best. Otherwise its general treatment is exactly identical to Odontoglossum in general.

Oncidium crispum is a very common and popular species, but does not take kindly to artificial cultivation, and it has an awkward way of growing smaller after the first few years. By its behaviour when newly imported it is apt to mislead one, for it then comes away so very freely, making lots of new roots and fine large pseudobulbs, which in their turn produce such grand flower spikes that it is concluded by those who may not have grown it before that it is the most simple thing to grow imaginable. The first season's produce is generally the best, for after bearing the enormous flower spikes, it soon commences to show evident signs of distress, more or less in accordance with the good or bad treatment given from the beginning. When making a start with this species by all means obtain newly or recently imported plants, or failing this with semi-established plants that have been well attended to from the first, and you will then at least have a fair chance of success. This species succeeds best when either grown in baskets and suspended, or on blocks or rafts of teak wood. It is sometimes advisable to place them on rafts owing to the peculiar shape they have acquired through having been growing on branches of trees in their native habitat. When fixing them to blocks or rafts a little fibrous peat may also be used, or it may not, for my own part I prefer not to use anything. The raft should be of sufficient length to allow ample room for the new growths, as they appear, so that the new roots can cling to it and become firmly attached, otherwise they extend over and away from the raft into the air and render but little support, ultimately getting broken and useless. It is of great assistance to this species if suspended in the Cool house during three or four of the hottest summer months, during which time it is making its growth, and should then be watered freely. But when autumn arrives and the

nights begin to get cold it is best if removed to the Intermediate or Cattleya house, where it will in due course flower, after which a good long rest throughout the winter should be accorded, giving just sufficient water only to keep the pseudobulbs moderately plump. Under these conditions O. crispum will last for a considerable time in a fairly good and robust condition, and especially so if a rest from blooming be given occasionally, by pinching off the flower spike whenever the new pseudobulb shows any sign of being inferior in size to its predecessor.

Oncidium varicosum, another lovely autumn blooming species, is also rather difficult to keep in a strong, healthy state, and I advise a treatment corresponding exactly to that just described for the preceding species. The long winter's rest seems most essential for its well being, also the airy conditions of the Cool house for a few months in the summer when forming new growth. It is a good plan to grow this in small shallow pans, and shake out and repan each spring just as new roots are commencing to push, using a very light compost of moss alone. Or it can be well grown on teak rafts.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING was held at the Coal Exchange, Manchester, on April 13th, when there was a very fine display of Orchids. The following members of the Committee were present :—Messrs. G. Shorland Ball (in the chair), W. Thompson, G. W. Law-Schofield, H. Greenwood, P. Weathers, J. Cypher, W. Holmes, W. Stevens, R. Johnson, and T. Mills (hon. sec.).

W. Thompson, Esq., Stone (gr. Mr. Stevens), staged a group of select miscellaneous Orchids, to which a Silver Medal was awarded.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cattleya intermedia alba (First-class Certificate), Cypripedium Godefroyæ Veitchii, an excellent form (Award of Merit), Dendrobium × Rainbow, D. nobile Backhouseanum, and Lælio-cattleya × Euterpe.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Dendrobium Wardianum Gratrixii, an immense flower of a good dark colour, and D. Falconeri giganteum (Award of Merit), Cypripedium insigne, Harefield Hall var. (First-class Certificate), a form of C. × Lucie (ciliolare × Lawrenceanum), C. × excellens, Lælio-cattleya × Hon. Mrs. Astor (Award of Merit), L.-c. × exoniensis, Cattleya Schrœderæ amabilis, C. S. West Point variety, and Odontoglossum triumphans (Award of Merit).

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-cattleya × Pallas, Cattleya Lawrenceana (Award of Merit), C. Schrœderæ,

Odontoglossum Hallii leucoglossum, O. crispum (Award of Merit), O. × Wilckeanum, a seedling Cypripedium, a very fine hybrid with bellatulum as one of the parents, the other unknown (First-class Certificate), Cymbidium Lowianum, and Dendrobium × splendidissimum Leeanum. This exhibitor also staged a very effective group, which received a Silver Medal.

Dr. E. J. Sidebotham, Bowdon (gr. Mr. Shiner), showed Cypripedium caudatum Wallisii (First-class Certificate) and C. Mastersianum.

Henry Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Odontoglossum × Humeanum (Award of Merit), O. nebulosum (Award of Merit) Cattleya Schrœderæ, Dendrobium × Clytie (Award of Merit), D. n. nivalis, D. n. Highfield variety (Award of Merit), and D. × Cybele giganteum. The same exhibitor staged a group of miscellaneous Orchids, for which he received a Vote of Thanks.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium Argus Moensii (Award of Merit), C. barbatum Warneri, C. villosum aureum, C. v. magnificum (Award of Merit), Dendrobium nobile Symmetry (Award of Merit), D. n. roseum, and other named forms of D. nobile, also Cypripedium Mastersianum superbum (Award of Merit). This exhibitor also staged an effective group, and was awarded a Vote of Thanks.

Capt. J. Barlow, Bury (gr. Mr. Heywood), showed a very fine specimen of Chysis bractescens, which was awarded both a First-class Certificate and a Cultural Certificate.

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed a hybrid Odontoglossum which received an Award of Merit.

J. Charlton Parr, Esq., Warrington (gr. Mr. Masterton), staged a small collection of cut blooms, excellently cultivated, amongst which were conspicuous Eulophiella Elizabethæ, Cypripedium Sanderianum, and C. Rothschildianum. The group received a Cultural Certificate and a Vote of Thanks.

Edward Holt, Esq., Prestwich (gr. Mr. Murphy), showed a group of cut blooms, which received a Vote of Thanks.

John Richardson, Esq., Altrincham (gr. Mr. Jenkins), showed Dendrobium nobile delicatum and D. crassinode.

Mr. James Cypher, Cheltenham, showed Cypripedium × Winifred Hollington (Award of Merit), C. niveum grandiflorum (Award of Merit), Odontoglossum Rossii Amesianum (Award of Merit), Lælio-cattleya × highburiensis (Award of Merit), Diacrium bicornutum (First-class Certificate).

Messrs. F. Sander & Co., St. Albans, showed Cypripedium Chapmanii, Lælia × Latona (cinnabarina × purpurata), and a good form of Cypripedium × Aylingii (Award of Merit).

Mr. John Robson, Altrincham, showed Odontoglossum triumphans.

Mr. A. G. Keeling, Bingley, showed Cypripedium × rotundum (Lathamianum × purpuratum), C. × Harrisianum, Phaius × Cooksoni, and Cattleya citrina (Cultural Certificate) also a group for which he received a Vote of Thanks.

At the meeting held on April 27th there was again a very good display. The members present were:—Messrs. G. Shorland Ball (in the chair), G. W. Law-Schofield, A. Warburton, D. B. Rappart, J. Cypher, P. Weathers, W. Holmes, and R. Johnson.

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a distinct and handsome Cymbidium, with a three-flowered inflorescence, the colour being ivory-white with a deep yellow crest. It is said to have been imported with C. eburneum, and it is suggested that it may be a natural hybrid from it and some other species (F. C.). He also showed a fine form of Odontoglossum × Coradinei (A. M.), a very dark-coloured O. triumphans (A. M.), a specially brightly-coloured form of Phalænopsis Lueddemanniana (A. M.), two well-grown plants of Cochlioda Nœtzliana with large spikes of flowers, and several plants of Miltonia vexillaria with flowers varying from dark pink to nearly white. The same exhibitor also staged a miscellaneous group, for which he was awarded a Silver Medal.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed Lælia × Latona (A. M.), Epiphronitis × Veitchii (A. M.), Cymbidium × eburneo-Lowianum (A. M.), Cypripedium × grande atratum, C. Exul, several plants of Cattleya Mendelii, C. citrina, Odontoglossum × Ruckerianum, Dendrobium primulinum, D. atroviolaceum, and Eulophiella Elisabethæ (A. M.). This exhibitor also obtained a Silver Medal for a miscellaneous group.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cypripedium × Chapmanii (F. C.), C. × Goweri superbum, C. × grande atratum, C. × Minos, Lycaste Imperator (A. M.), Lælio-cattleya × highburyensis, and Odontoglossum Pescatorei.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya intermedia, a large flower of typical colour (A. M.), C. Schilleriana (A. M.), C. Mossiæ, C. Mendelii, Odontoglossum crispum Rosa Leemann, O. luteopurpureum, and Cypripedium villosum giganteum. The same exhibitor also staged a good group of Orchids and was awarded a Silver Medal.

Dr. E. J. Sidebotham, Bowdon (gr. Mr. Shiner), showed Maxillaria Sanderiana, Lycaste Skinneri alba, and Dendrobium Dearii.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed a fine form of Cattleya Mendelii with very deeply-coloured lip (F. C.).

H. Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Dendrobium

nobile giganteum (F. C.), and Odontoglossum Hunnewellianum maximum (F. C).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Cattleya Mendelii Quorn House var. (F. C.), and C. M. Duchess of York (F. C.).

H. Shaw, Esq., Stockport (gr. Mr. Cliffe), showed Lælio-cattleya × Latona.

Edward Holt, Esq., Prestwich (gr. Mr. Murphy), showed a miscellaneous group, for which he was awarded a Vote of Thanks.

Messrs. F. Sander & Co., St. Albans, showed Cattleya Schrœderæ, a beautifully cultivated plant covered with blooms (Cult. C.), and a seedling Cypripedium insigne Chantini × Chamberlainianum, a very pretty flower, quite intermediate in character (A. M.).

Messrs. Charlesworth & Co., Bradford, showed Cattleya Schrœderæ heatonense, a beautiful and distinct light variety (F. C.), Cypripedium × Hyeanum (Sallieri Hyeanum × Spicerianum), (A. M.), C. × Mansellii (Chamberlainianum × villosum), (A. M.), C. × microchilum, C. × conco-villosum, C. × Eros (Mastersianum × Lawrenceanum), and Odontoglossum × Wilckeanum illustre.

Mr. A. J. Keeling, Bingley, showed Odontoglossum × Andersonanium, Cattleya Lawrenceana, and Dendrobium × micans; also a group, for which he received a Vote of Thanks.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Drill Hall, James Street, Westminster, on March 28th, was smaller than at the previous meeting, though the exhibits were up to the average in quality. The members of the Committee present were H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), H. Ballantine, H. J. Chapman, J. Colman, N. C. Cookson, S. Courtauld, J. G. Fowler, J. F. Gabriel, T. B. Haywood, E. Hill, J. Jaques, F. Mason, A. Outram, H. T. Pitt, W. H. Protheroe, A. H. Smee, F. J. Thorne, R. B. White, W. H. White, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a small group of finely-grown specimens, to which a Silver Banksian Medal was awarded. It contained a fine Cattleya Lawrenceana with sixteen flowers, C. × Lawre-Mossiæ, a fine Cypripedium Stonei, C. Rothschildianum, with two fine spikes, two handsome dark forms of Odontoglossum triumphans, O. Hallii with a spike of sixteen flowers, a good form of Epidendrum × dellense called xantho-radicans, aud others. An Award of Merit was given to a well-grown plant of Dendrobium × Euterpe (nobile × Wardianum) with a fine flowering growth between three and four feet long.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a good group, to which a Bronze Banksian Medal was given. It contained a fine plant of Eulophiella Elizabethæ with three spikes, Dendrobium × splendidissimum grandiflorum and others, Oncidium sarcodes, Epidendrum Wallisii, a good form of Odontoglossum × Humeanum, varieties of O. × Andersonianum, &c. A Cultural Commendation was given to O. × Wilckeanum Primate with a splendid inflorescence.

M. Jules Hye-Leysen, Ghent (gr. Mr. Coen), received a First-class Certificate for Lælio-cattleya × Myra Etoile d'Or (C. Trianæ × L. flava), a very handsome clear yellow flower, and an Award of Merit to Odonto-glossum × excellens nobilior, bearing a raceme of fourteen fine yellow flowers spotted with red-brown.

J. Sparkes, Esq., Heathside, Ewhurst, Guildford (gr. Mr. Smith), staged a good plant with three spikes of the rare little Australian Dendrobium Fœlschei (F. Muell), to which a Botanical Certificate was given.

Frau Ida Brandt, Zurich (gr. Mr. Schlecht), sent the rare Oncidium Warscewiczii, Phalænopsis Aphrodite, and the charming Cœlogyne Sanderæ.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent four plants of Dendrobium × Cybele Oakwood variety (Findlayanum × nobile burfordiense), no two of them being alike, and the best an improvement on the typical form.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed Odontoglossum × mulus Crawshay's var., a very fine form, a handsome O. crispum, and a finely-grown plant of O. × Andersonianum with three spikes.

T. B. Haywood, Esq., Woodhatch Lodge, Reigate (gr. Mr. Salter), showed several good Dendrobium × Ainsworthii.

Sir William Marriott, Down House, Blandford (gr. Mr. Denny), showed a fine form of Lælia × Latona.

E. de Quincey, Esq., Chislehurst (gr. Mr. Lees), showed a fine form of Cattleya Trianæ.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), showed a rich dark yellow unspotted form of Cypripedium insigne, called C. i. Statteræ.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed Odontoglossum Hallii nigrum, a very fine form, with copious very dark markings, and O. × Wilckeanum waltonense, a handsome yellow form richly blotched with purple-brown.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), sent a good Cypripedium hirsutissimum, and Eriopsis rutidobulbon with three spikes.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a handsome

group, containing some very fine forms of Cattleya Trianæ, Dendrobium × cheltenhamense, some handsome varieties of Odontoglossum crispum, Cypripedium Mastersianum, C. × Calypso, C. × Godseffianum, C × Winnianum, C. × T. W. Bond, C. × Smithii, and other good things.

Messrs. Linden, L'Horticulture Internationale, Brussels, sent Odontoglossum × Wilckeanum tigrinum, a handsomely-marked variety, O. × cirrho-Hallii, and a good form of Cypripedium × Schlesingerianum.

The meeting on April 18th was a great success, the Drill Hall being crowded both with exhibits and visitors. Orchids were represented in large numbers and excellent quality, some of them, owing to want of space, never getting beyond the Orchid committee table. The members present were :— H. J. Veitch, Esq., in the chair ; J. O'Brien (hon. sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. J. Chapman, J. Colman, S. Courtauld, De B. Crawshay, J. G. Fowler, J. T. Gabriel, T. B. Haywood, E. Hill, J. Jaques, H. Little, A. Outram, H. T. Pitt, F. Sander, W. H. White, and W. H. Young.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very choice group, to which a Silver-Flora Medal was given. It contained the rare Dendrobium Falconeri giganteum, Cymbidium Devonianum with five spikes, a specimen Calanthe veratrifolia with seven spikes, Cochlioda sanguinea, a good plant of Maxillaria præstans, three plants of the charming little Epidendrum Endresii, remarkable for the duration of its flowers, which seemed as perfect as when exhibited at the February meeting, E. Schomburgkii with two fine spikes, the handsome Cypripedium × Fowlerianum, C. × barbato-bellum, Odontoglossum × Ruckerianum with a fine five-branched spike, the rare O. brevifolium with two spikes, O. Edwardii, O. crispum, a fine O. gloriosum, Masdevallia Harryana, and others. A fine plant of Masdevallia × Shuttryana Chamberlainii with ten splendid flowers received a First-class Certificate, and Miltonia cuneata with five spikes a Cultural Commendation.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), staged a small group of choice things, to which a Silver Flora Medal was given. It contained two superb forms of Odontoglossum × Wilckeanum, Queen-Empress with a close raceme of very large, yellow and brown flowers, and Princess Christian with clear white ground and brownish-purple blotches, a fine O. triumphans, also inflorescences of O. Pescatorei Veitchianum, O. P. Schrœderianum, and the remarkable slaty-blue Cattleya Lawrenceana Vinckeana.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen) also received a Silver Flora Medal for a fine group, containing fine examples of Cymbidium Lowianum and C. × eburneo-Lowianum, Lycaste Skinneri, Lælia × Latona, some good Odontoglossum crispum, Pescatorei, triumphans,

× Andersonianum, the beautiful O. × Adrianæ Whiffenii with nearly white ground, together with the typical form, and other good things.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), received a Silver Banksian Medal for a fine group consisting largely of finely-grown examples of Dendrobium nobile, D. Wardianum, with other good things.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), also received a Silver Banksian Medal for a good group, containing a good example of the beautiful Dendrobium Johnsonæ, D. atroviolaceum, a fine example of Angræcum sesquipedale, and several well-grown Diacrium bicornutum.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent excellent examples of Cypripedium callosum Sanderæ, C. Lawrencanum Hyeanum, and the superb Odontoglossum crispum Ashworthianum, very heavily blotched with rose-purple, a First-class Certificate being awarded to the latter.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), received an Award of Merit for Odontoglossum crispum obstupefaciens, bearing irregular curved red-brown blotches.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), sent the handsome purple-blotched Odontoglossum crispum Luciani, Cattleya Schrœderæ and C. Mendelii, and Dendrobium × Clio, Vine House var., a fine variety with a four-flowered raceme, to which an Award of Merit was given.

Sir F. Wigan, Clare Lawn, East Sheen (gr. Mr. Young), sent the handsomely blotched Odontoglossum crispum Sir Frederick, O. × Andersonianum Golden Sheen, broadly bordered with yellow on the sepals and petals and slightly spotted, and O. × Adrianæ Lady Wigan, a pretty, densely-spotted form, to which an Award of Merit was given.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a fine dark Cypripedium Rothschildianum, C. caudatum, a well-flowered example of Maxillaria Turneri, to which a Botanical Certificate was given, and others.

Frau Ida Brandt, Zurich (gr. Mr. Schlecht) sent the rare little Kefersteinia graminea, Lycaste brevispatha, and a finely coloured Phalænopsis Lueddemanniana.

F. M. Burton, Esq., Highfield, Gainsborough, sent his seedling Cypripedium × Tautzianum (niveum × barbatum Warneri), the flower at present being small and light in colour, and three very pretty forms of Epidendrum Burtoni, which are noted on another page.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent Dendrobium × Cybele Oakwood var. (Findlayanum × nobile burfordiense), in which the blotch at the base of the lateral sepals of the pollen parent is reproduced.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent a plant with two spikes of the splendid Odontoglossum triumphans Lionel Crawshay, which is remarkable for the great breadth of the segments, also a good, dark form of the species.

J. Gurney Fowler, Esq,, Glebelands, S. Woodford, Essex (gr. Mr. Davis), sent a good form of Cattleya intermedia, and C. × Cecilia.

W. A. Gillett, Esq., Fairoak Lodge, Bishopstoke (gr. Mr. Carr) sent a group of cut inflorescences of excellent quality, including a fine Dendrobium Wardianum, four distinct varieties of D. nobile, a fine form of Vanda suavis, Odontoglossum triumphans, O. Hallii, O × Coradinei with 18 flowers, a beautiful form of O. × Andersonianum, O. crispum, O. Pescatorei, and O. Rossii.

Mrs. Parr, the Cedars, Upper Tooting, sent the remarkable Dendrobium macrophyllum.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent the handsome Odontoglossom × excellens Rosslyn var.

G. O. Sloper, Esq., Highworth, sent a good Vanda tricolor and Cypripedium × Dauthieri.

J. Sparkes, Esq., Heathside, Ewhurst, Guildford (gr. Mr. Smith), sent a good plant of Cymbidium Sparkesii (Rendle) with three spikes. It is near C. canaliculatum, but has broader leaves, and the lip broadly margined with purple round a yellow disc.

Messrs. James Veitch & Sons, Chelsea, staged a splendid group, to which a Silver-gilt Flora Medal was awarded. It contained a series of fine varieties of Cattleya Schrœderæ, C. Mendelii, C. Schilleriana, Lælia × Latona, L. cinnabarina, Lælio-cattleya × Pallas, a fine example of Epiphronitis × Veitchii, Bifrenaria Harrisonæ candida, Cymbidium × eburneo-Lowianum, the rare Dendrobium albosanguineum, D. × Imogen (euosmum leucopterum × signatum) a pretty light yellow form, D. × cheltenhamense, the brilliant D. subclausum, D. × Alcippe, some good D. infundibulum, Oncidium sarcodes, some distinct forms of the charming little Epidendrum × elegantulum, a number of good Odontoglossums, Cypripedium × Alice, one flower being reduced to a pair of sepals, and various other good things.

Messrs. B. S. Williams & Son, Upper Holloway, also staged a fine group, to which a Silver Flora Medal was awarded. It contained a series of eighteen well-grown plants of Vanda tricolor and V. suavis and varieties, Trichopilia coccinea lepida, Phaius × Norman, Cymbidium Devonianum, various good Odontoglossums, Dendrobiums, Cypripediums, &c.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for another fine group, containing some good forms of Cattleya Mendelii, C. Schœderæ, C. intermedia alba, Ada aurantiaca,

Dendrobium thyrsiflorum, D. Falconeri, Cymbidium Lowianum, C. L. concolor, Colax jugosus, Odontoglossum triumphans, some good O. crispum, and other showy things.

Mr. James Douglas, Edenside, Great Bookham, staged a small group, containing good examples of the handsome Phaius × Cooksoni, Lælia harpophylla, Cypripedium Rothschildianum, C. villosum, &c.

Messrs. John Laing & Sons, Forest Hill, included a few good Orchids in a fine group of miscellaneous plants.

ORCHID PORTRAITS.

CYPRIPEDIUM × VENUBEL.—*Journ. of Hort.*, April 20th, p. 315, fig. 73.

DENDROBIUM × CYBELE, OAKWOOD VARIETY.—*Gard. Chron.*, April 29th, pp. 258, 259, fig. 96.

MASDEVALLIA × GELENYANA.—*Journ. of Hort.*, April 13th, p. 293, fig. 70.

ODONTOGLOSRUM × ADRIANÆ LADY WIGAN.—*Gard. Chron.*, April 29th, p. 258, fig. 95.

ODONTOGLOSSUM CRISPUM ASHWORTHIANUM.—*Journ. of Hort*,, April 27th, p. 335, fig. 76.

ODONTOGLOSSUM CRISPUM, DUKE OF YORK.—*Journ. of Hort.*, April 6th, p. 269, fig. 65.

VANILLA PLANIFOLIA (in fruit).—*Gard. Chron.*, April 8th, p. 213, fig. 81.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W. J. R., Maghull. Saccolabium ampullaceum.

E. F. C., Teignmouth. Apparently a form of Paphiopedilum × Allanianum (Spicerianum × Curtisii). The colour is good, but the lip of this hybrid always seems to us disproportionately large. The record "concolor × villosum superbum," under which it was purchased, cannot possibly be correct. The other is a form of P. × Schlesingerianum (Boxallii × insigne).

R. W. R., Usk. Not quite the original Dendrobium nobile nobilius, but almost equally good, and we think brighter in colour. Some of the recently introduced forms are almost identical.

W. H. F., Brandon. A form of Odontoglossum × Andersonianum.

H. J. R., Florence. Probably a pale form of Paphiopedilum × Creon. The batch of seedlings will probably differ in this respect.

O. O. W., Bury. Both forms of Paphiopedilum virens. The seedling from P. barbatum × Curtisii is a form of P. × Kerchoveanum, the original apparently being derived from the reverse cross.

Photographs received, with thanks. A. W. H., E. F. C.

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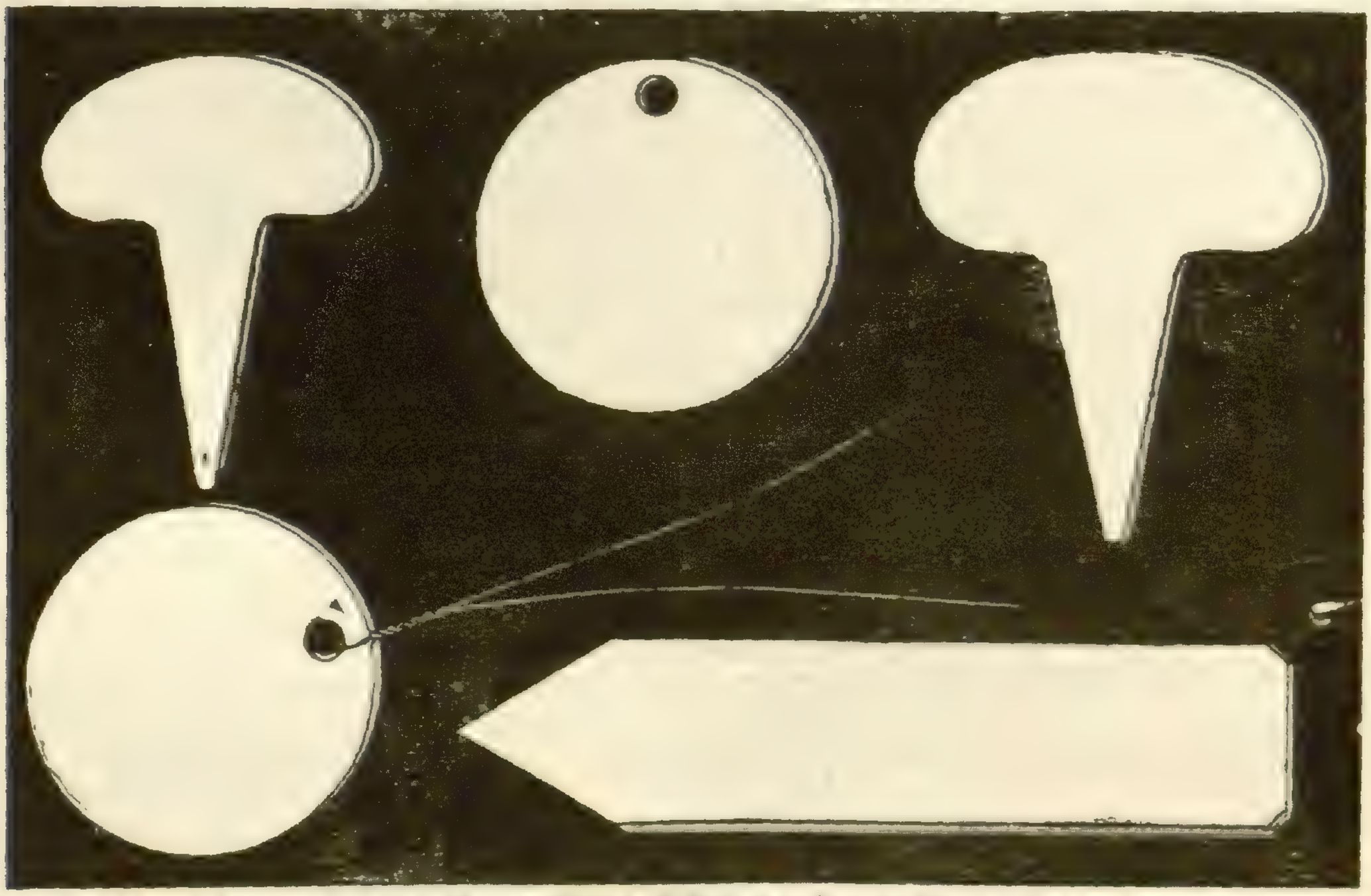

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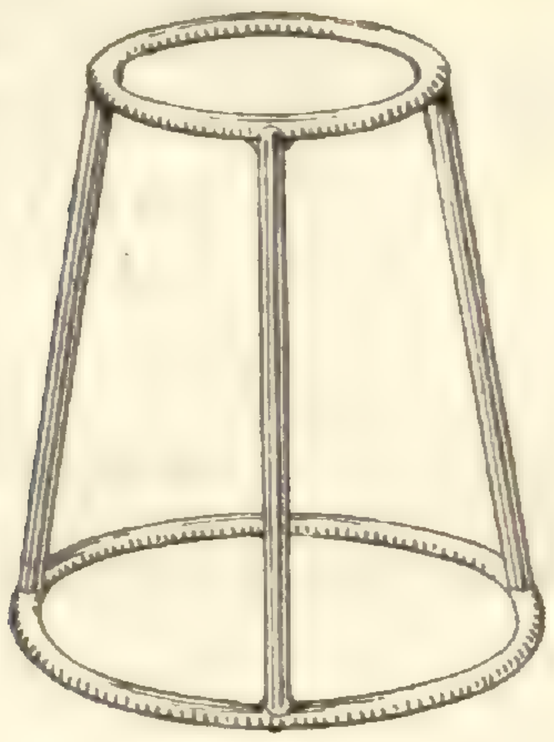

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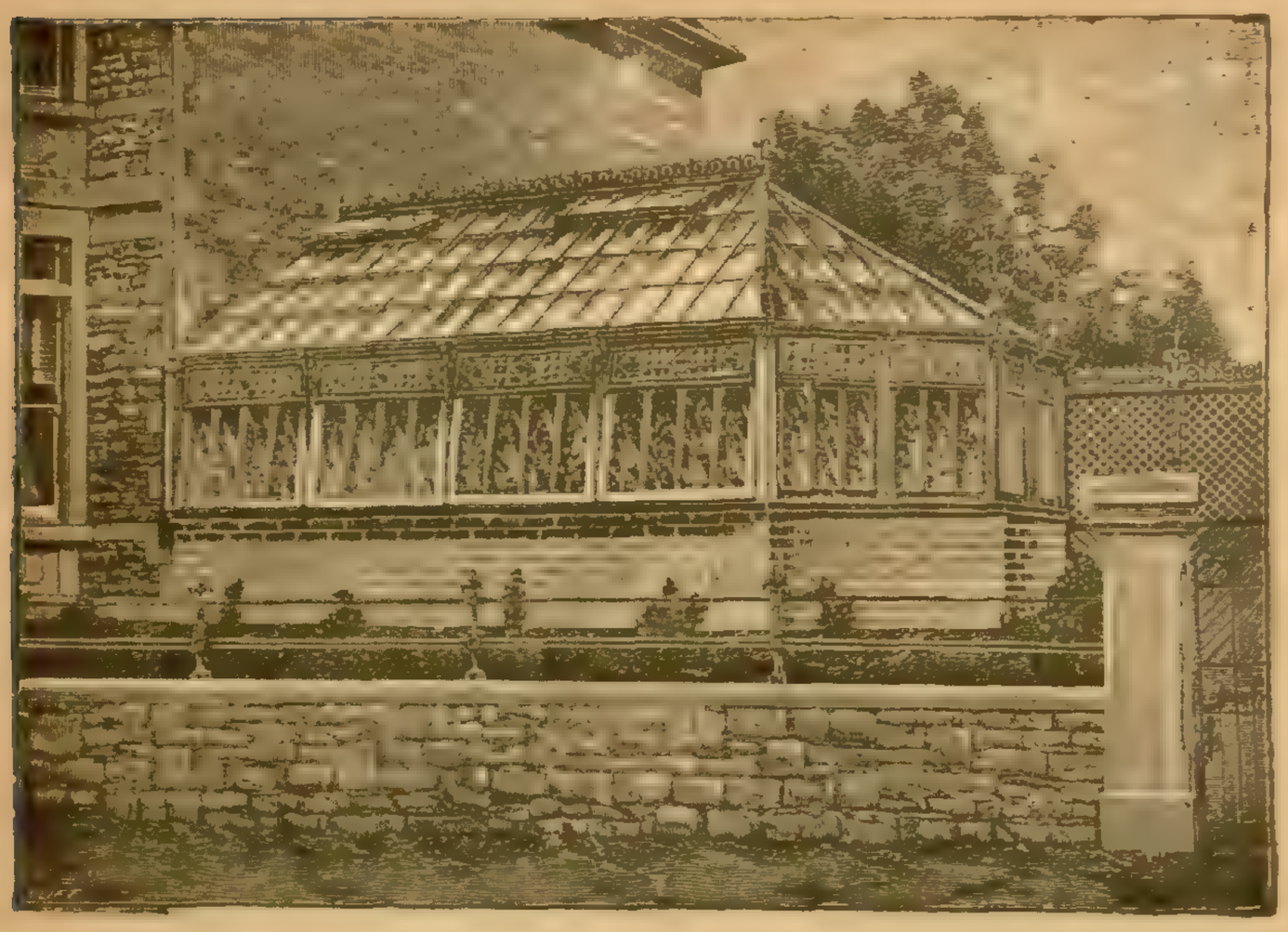

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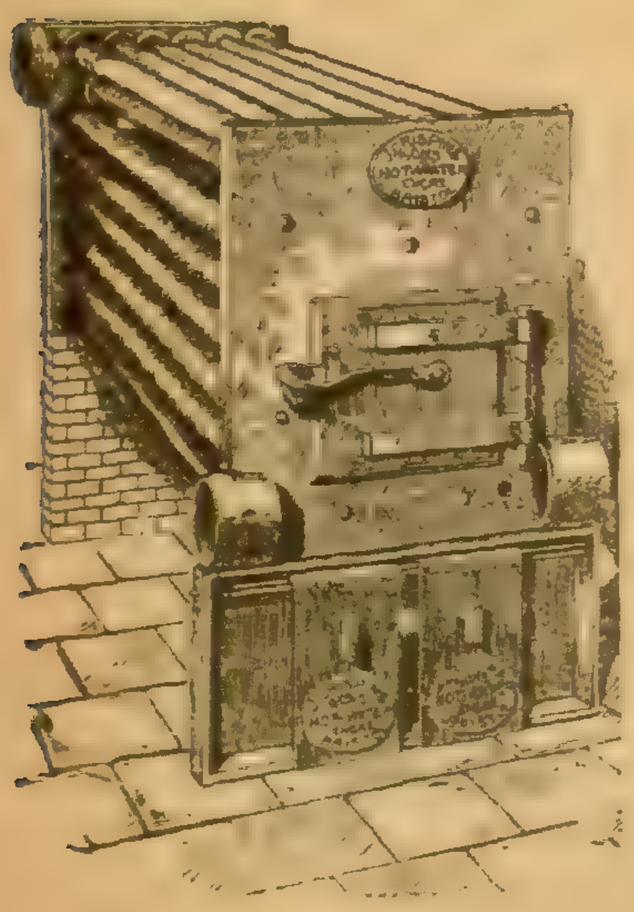

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *JUNE*, 1899. [No. 78.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during June, on the 13th and 27th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings on June 8th and 29th, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection from one o'clock until four.

A flower of Paphiopedilum × Richmanii is sent from the collection of Captain Hincks, of Richmond, Yorks. It is from seed sown in February, 1895, the cross being P. bellatulum × barbatum biflorum. This first flower is rather small, but dark, and the spots on the petals numerous and minute, and it will probably develop into a good thing as it gets stronger.

Among the beautiful Orchids figured in the November and December numbers of the *Dictionnaire Iconographique des Orchidées* are Trichopilia suavis and its variety alba, Oncidium varicosum Rogersii and O. v. concolor, the latter having lost all the brown markings, Cattleya × Maroni, Miltonia × Binoti, Cypripedium × Morganiæ and C. insigne Sanderæ. It may be noted that C. exul, O'Brien, should be C. exul, Rolfe. We may remind the Editors that a few additional cases would be very useful, for on putting the present instalment away, we find that the one devoted to miscellaneous genera will not hold all the additions, and two or three others are full almost to overflowing.

An interesting note in connection with the degeneration of Orchids is

given by M. Otto Ballif in the *Chronique Orchidienne* (p. 188). A plant of Lælio-cattleya × elegans is said to have been cultivated at the Château de Thoiry, Seine-et-Oise, one of the oldest French collections, for a period of thirty-eight years, by the venerable gardener Victor Douy, recently deceased. During this period it has been several times divided, but is still as vigorous as ever.

A flower of the remarkable little Pleurothallis punctulata, remarkable for the leaves and stems being densely covered with white meal, is sent from the collection of R. I. Measures, Esq., of Camberwell. The plant is bearing nine flowers. Flowers of a pretty little group of Restrepias are also sent, and include R. antennifera, elegans, striata and Lansbergii.

A curious flower of Sophronitis grandiflora, from the collection of E. F. Clark, Esq., of Teignmouth, has the dorsal sepal united along the middle to the back of the sepal, and thus curves forward over the lip. A flower of the handsome Paphiopedilum × Pollettianum (calophyllum × œnanthum superbum) is also sent.

A very fine flower of Dendrobium nobile, measuring four inches from tip to tip of the petals, is sent from the collection of C. E. Bovill, Esq., Grove Park, Chiswick. All the parts are correspondingly well developed, and the blotch of the lip is very broad and dark. The colour is fairly typical, but the upper third of the petals is rich rose-purple and contrasts very effectively with the nearly white base. It was received from Darjeeling two years ago, and may be referred to D. nobile giganteum.

A flower of the beautiful Cattleya Trianæ alba, which flowered out of a recent importation, is sent by Messrs. Hugh Low and Co., of Enfield. It is pure white, with the exception of the usual deep yellow disc.

A very good, heavily-spotted form of Odontoglossum × Andersonianum is sent from the collection of E. Docker, Esq., Spring Grove, Isleworth, by Mr. Robins. It is both good in shape and bright in colour, and some of the spots on the petals are linear in shape.

Flowers of the handsome Odontoglossum × crispo-Hallii are sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, showing that it has decidedly improved since it was first described in these pages (*O. R.*, v. p. 10). It bears much resemblance to O. × Denisoniæ (Wilckeanum) in shape, but has distinctly acuminate sepals and petals, as in O. Hallii, with a light yellow ground colour, much blotched with deep red-brown. The crest and column wings most resemble O. Hallii. It is a very beautiful hybrid.

A large and very richly-coloured form of Cattleya Skinneri is sent by Mr. C. C. Hurst, Burbage Nurseries, Hinckley, together with an inflorescence of the rare Cypripedilum californicum, whose small yellow flowers with a white lip are not often seen in cultivation.

A five-flowered spike of an exceptionally fine and richly-coloured form of Vanda teres is sent by Mr. W. Hurlstone, Parkfield Hallow Gardens, Worcester. A note on the culture of these plants appeared at page 358 of our last volume, and it is interesting to add that two hundred and twenty-six spikes have been produced this season, the two largest rafts producing forty-two spikes each. It must have been a splendid sight.

Another of M. Ch. Vuylsteke's seedlings between Odontoglossum Pescatorei and O. Harryanum has flowered, and proves to be considerably different from the original O. × Rolfeæ, though of course a variety of it. It is a magnificent thing, of exceptional size, bearing large violet-purple blotches on the sepals and petals, instead of small spots, the ground colour, as before, being nearly white. We have not seen anything like it before, and congratulate M. Vuylsteke on his success.

A raceme of Dendrobium pulchellum (Dalhousieanum) is sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool, which contains one very remarkable flower, or rather two fused together side by side. The peculiarity, however, is that while the sepals and petals are doubled as regards number, there are three lips, each fairly perfect, though a little displaced by the crowding.

Two good forms of Cattleya citrina are also sent, one having no white on the lip, and the sepals and petals somewhat spreading, approaching the variety aurantiaca.

A very remarkable variety of Cattleya Schrœderæ has appeared in the collection of Mrs. Briggs-Bury, Bank House, Accrington, in which the broad petals are flamed with light purple something like a tulip. It has flowered out of some imported plants, and, if it keeps true to its character, should be a striking thing when fully established.

Four distinct and pretty forms of the charming little Odontoglossum Cervantesii are sent from the collection of Richard Ashworth, Esq., of Newchurch, near Manchester. One is like the variety decorum, and has the lip barred with brown at the base and spotted at the margin. Another, equally good, has the sepals and petals suffused with blush, and the lip white. The others are more typical, but one has the lip spotted at the base, and the other pure white.

Fine examples of the beautiful Dendrobium Falconeri are sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough, by Mr. Milburn. It was bought as an imported plant three years ago, and flowers freely every year. In its dwarf branching habit it differs greatly from its allies.

This species does not appear to have been used much by hybridists, though intercrossed with D. nobile it has yielded one of the finest hybrids in existence, namely, D. × Venus, of which an excellent example is sent from the collection of Norman C. Cookson, Esq.

A photograph, sent by Mr. A. Griesson, of Calcutta, shows the interior of one of the Orchid houses in Mr. P. S. Chattergee's Nursery at Calcutta. "Although a native," Mr. Griessen remarks, "he keeps up the place quite in European fashion. He has travelled across Europe with Mr. Binot, and no doubt took many interesting notes. He exports every year a considerable number of plants to England, mostly Himalayan kinds, and has also an interesting private collection, which contains no hybrids, that branch of the business not having yet extended so far." The photograph shows a house built on modern principles, in which a number of good Phalænopsis and a few other things are arranged with graceful foliage plants on either side of the pathway, while Oncidium luridum in bud, a fine flowering specimen of Dendrobium aggregatum, and a few others, are suspended from the roof. These details come out very clearly in the photograph.

HYBRIDISATION RECORDS.

A PARAGRAPH referring to some Cypripediums offered for sale in my Orchid list for January last, appeared in the ORCHID REVIEW for May (p. 132). Your correspondent appears to doubt the possibility of there being such crosses as he referred to, and I therefore wish to dispel his evident reluctance to believe that the plants are genuine. If your correspondent doubts the existence of such crosses simply because he has no record that they are in existence, I beg to inform him that I have been a raiser of Orchids—Cypripediums especially—for close on twenty years, and I can produce a record of fully two hundred crosses of Cypripediums raised by me in conjunction with my late employer, who, for reasons of his own, caused by the indifferent treatment he has received from those who consider themselves purveyors of horticultural knowledge, declines to enter into present publicity with his plants, excepting through me. What would your correspondent say if he was shown flowered examples of Cypripedium Stonei × Fairrieanum, C. Niobe × Fairrieanum, Selenipedium Lindley-

anum × Schrœderæ, and many others? I should only be too glad to show your correspondent these and many other plants, when I am sure he would only be too ready to reverse his opinion.

A. KEELING.

[If Mr. Keeling will send us a flower of the crosses in question, we will take care that our correspondent has an opportunity of seeing them, and also give an unbiased opinion on the points under discussion. We know that when with Mr. Drewett he raised a hybrid from C. callosum × Fairrieanum, called C. × Juno, whose correctness has never been called in question. But there is the recent record that Mr. Keeling exhibited at Manchester a plant called C. Fairrieanum, which the Orchid Committee were unanimously of opinion was not correctly named. What, then, was it? And was it the parent of the hybrid now offered for sale by Mr. Keeling? We should like to see these matters cleared up. The charge now brought by Mr. Keeling against the horticultural press is too vague, and should be substantiated or withdrawn.—ED.]

DENDROBIUM WARDIANUM AS A SEED-PARENT.

WE have attempted to fertilize Dendrobium Wardianum with almost every Dendrobium species we have, and as a seed-parent have found it practically useless. A few capsules have appeared, but the contents generally were nil. As an experiment, we have fertilized it with Wardianum pollen, and with that of crassinode, and in these cases only with almost invariable success. As a pollen-parent the results are different.

NORMAN C. COOKSON.

Oakwood, Wylam-on-Tyne.

CHANGE OF COLOUR AFTER FERTILISATION.

The effect of fertilisation on the flowers of Orchids is well known, but a curious instance of change of colour in Vanda cœrulea is recorded in the *Chronique Orchidéenne* (p. 166). A plant of this species at the School of Horticulture, Ghent, bore a raceme of nine flowers, and, about mid-day on December 2nd last, eight of these were fertilised with their own pollen. Next morning, less than twenty hours after, these flowers had changed to white, though they showed no other change, while the single untouched flower retained its beautiful mauve tint.

We once observed a somewhat analagous case in Odontoglossum × Andersonianum hebraicum. A single flower on a raceme of this plant was observed to be deep yellow while all the rest were of the usual primrose tint. Closer examination showed that in some way this flower had been

recently fertilised, and this change of colour was the first evidence of the change, the flower being otherwise perfect.

In Phalænopsis Lueddemanniana the segments rapidly become green, and, what is certainly curious, they then remain in this condition for months while the capsule develops.

THE HYBRIDIST.

PHAIUS × PHŒBE.

THE advent of the beautiful Phaius × Cooksoni gave a great stimulus to hybridising in the genus, and now we have quite a series of charming garden plants raised by intercrossing the Indian and Madagascar species. The latest addition to the list is Phaius × Phœbe, also raised in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by crossing P. Wallichii Sanderianus with the pollen of P. Humblotii, to which a First-class Certificate was awarded by the R. H. S. on May 16th last. We have received a flower from the raiser, together with one of P. × Cooksoni, for comparison, which shows that the novelty is distinctly larger in size and lighter in colour, while there are important differences in the details on the lip and column, as might be expected from the different parentage. The sepals and petals are broad, 1¾ inches long, subequal, and a peculiar light fawn colour tinged with pink; and the lip 1½ inches long, very broad, undulate, obscurely 4-lobed, and rich crimson-red, with yellow nerves radiating from the centre. The spur is very short, and the column larger and broader than in P. × Cooksoni. It is a charming addition to the group.

LÆLIO-CATTLEYA × LUCIA.

Flowers of a very pretty little hybrid have been sent from the collection of E. F. Clark, Esq., Chamounix, Teignmouth, with the following history. It was purchased in April, 1897, as a seedling from the Winn collection, with the parentage Cattleya Mendelii × Lælia cinnabarina. At that time it was small, and did not appear to have formed its first bulb, but it has since made great progress, and has now flowered when just five years old. The inflorescence now produced is two-flowered, the pseudobulb which was formed last autumn being rather over two inches long, and the leaf not quite six. The sepals and petals are deep apricot colour, with a reddish shade, and the three-lobed lip is veined with red purple in a broad band round the front and side lobes of the lip, the centre being clearer yellow. There is a strong family resemblance between the hybrids between Lælia cinnabarina and the Cattleyas of the labiata group, but the differences in the present are such as might have been expected from the above parentage. It is a very pretty little plant, and is obviously not nearly developed at present, the plant being small. It is named after Mr. Clark's little daughter.

HYBRID ODONTOGLOSSUMS.

(*Continued from vol. vi. p. 181*).

One of the difficulties that one has to contend with in identifying the various natural hybrids which appear is the absence of information as to the exact range of the different species, and the consequent difficulty of finding out which of them grow together. This applies not so much to the older hybrids, which are now pretty well known and easily recognised, as to the novelties which appear from time to time. The one called O. × harvengtense may be taken as an example. It was described as a supposed natural hybrid between O. crispum and O. sceptrum, which presupposes the fact that the two grow together, though no evidence was adduced in confirmation of this, and the facts known pointed the other way. I referred it to O. × excellens (*O. R.*, ii., p. 201), but the point has since been disputed. A plant exhibited by Messrs. Charlesworth & Co., at Manchester, as O. × harvengtense, appeared to be only a distinct variety of O. triumphans, but the curious thing is that it is said to have come in an importation of O. crispum. Several times recently I have seen plants of O. triumphans said to have come out of crispum importations, and have thought that the plants have been accidentally mixed, for they have hitherto come from different districts, but the question arises whether the two grow anywhere intermixed. A little group staged at Manchester by Messrs. Charlesworth, contained O. crispum, triumphans, harvengtense, and what I take to be a form of O. Pescatorei, and these are said to have come together tied to sticks in the usual way they are imported. But does this necessarily prove that they grew, and were collected, together?

One thing, however, is certain, and that is that we do not yet know all about the distribution of O. crispum in a wild state. For many years it has been imported from Pacho and neighbouring districts, where it has been found intermixed with O. gloriosum, luteopurpureum, and Lindleyanum, and out of these importations examples of the hybrids, O. × Andersonianum, × Wilckeanum, × Coradinei, × mulus, and × acutissimum have continually appeared. Then O. Hunnewellianum was discovered in some region, we believe, north of Bogota, and, still later, O. crispum was found in this very district, and together with it the charming little hybrid O. × Adrianæ. It flowered unexpectedly among importations of O. crispum from a new district, and among them were examples of O. Hunnewellianum itself, which removed any remaining doubt about the origin of O. × Adrianæ, which is precisely intermediate between them.

It is evident that O. crispum and O. Hunnewellianum hybridise together very freely, for the forms of O. × Adrianæ are already numerous, and as variable as these hybrids usually are. It includes forms with both light

yellow and white grounds, and even some suffused with light rose, together with variations in size and in the amount of spots. The group shown by Messrs. Linden, at Manchester, contained several distinct forms, one called fascinator having the sepals slightly suffused, and a large brown blotch above the middle with a few smaller ones below, and the petals paler and the spots smaller, but similar in arrangement. Some flowers sent by Messrs. Linden illustrate the variation in question. Three very pretty forms have appeared in the collection of M. Henri Graire, of Amiens, one having a white ground, another light yellow, and a third suffused with rose, all being well spotted. Several other forms have recently been mentioned.

O. × WENDLANDIANUM. — It is desirable to clear up the origin of O. × Wendlandianum (Rolfe in *Gard. Chron.* 1889, vi, p. 6), which flowered with Messrs. F. Sander & Co., in 1889. It was reported to have come from Popayan with O. crispum Lehmanni, and O. cirrhosum was doubtfully suggested as the second parent. Last year Messrs. Linden, flowered a plant out of one of their crispum importations, which I recognised as identical, and now a second one has appeared which possibly throws some light on its origin. Mr. Schuster believes that it comes with crispum importations from the Hunnewellianum district, also the well-known O. gloriosum, and suggests its descent from these two species. This at first struck me as possible, but on comparison I fail to find any influence of O. Hunnewellianum in it, and the purple suffusion in the sepals can, I think only have come from O. crispum. The crest, too, is very distinct, and shows a marked approach to the curious thread-like character of O. crinitum, Rchb. f., which also would account for the acuminate spotted sepals, and the deltoid, acuminate spotted lip almost as well as O. gloriosum, if only it could be proved to grow with O. crispum. Its exact habitat, however, seems doubtful, being vaguely recorded as Eastern New Granada, and I do not hear of it being re-imported.

A question which has been previously discussed is the existence of secondary hybrids in the genus, and it has been suggested that the remarkable O. × Coradinei mirabile is possibly a secondary cross between O. × Coradinei and O. crispum. We have also one suggested as a possible cross between O. × Wilckeanum and O. crispum. In such cases, however, there is always the possibility of one parent obtaining a preponderating influence over the other, and thus giving a misleading impression. The thing then to look for is a hybrid showing characters derived from three different species. Such a plant *must* be a secondary hybrid, and for a long time I failed to find such a plant. Now, however, such evidence comes to hand.

The first case is a plant from Messrs. Charlesworth & Co., which looks like a light, little-spotted O. × Andersonianum with the very

characteristic blotch of O. Lindleyanum on the lip. There is also a trace of the more entire column wings of the last-named. Unless appearances are misleading, it is impossible to deny the absence of either crispum, gloriosum, or Lindleyanum in it. A cross between O. × Andersonianum and O. × Coradinei would be crispum ½, and gloriosum and Lindleyanum each ¼, and this cross might be anticipated to produce such a hybrid.

The second case is a plant from Messrs. F. Sander and Co., and looks like O. × Andersonianum, with the sepals and petals enlarged to 2¼ inches long, the side teeth of the crest slightly developed, and the column wings toothed to the base behind the cirrhus-like apex. A cross between O. × Andersonianum and O. × Wilckeanum (crispum ½, and gloriosum and luteopurpureum each ¼) might yield such a hybrid. The characters do not admit of a suggestion of its being either an anomalous form of either O. × Andersonianum or O. × Wilckeanum. The sepals are suffused with light rose and spotted with brown, and the petals paler and less spotted.

The appearance of these plants should stimulate some of our hybridists to make a few experiments.

R. A. Rolfe.

(To be continued.)

ACINETA HRUBYANA (COLOSSA).

At a meeting of the Royal Horticultural Society, held on August 23rd last, a plant was exhibited by F. W. Moore, Esq., of Glasnevin, under the name of Acineta colossa, Sander, to which a Botanical Certificate was given. The flowers were light whitish-yellow, with a few dull purple markings towards the base of the lip, and the column pubescent (*O. R.*, vi. p. 287). The species has now flowered in the collection of Pantia Ralli, Esq., Ashtead Park, near Epsom, and, although distinct from the species usually met with in gardens, is, I believe, identical with A. Hrubyana, *Rchb.* f. (*Gard. Chron.*, 1882, xviii. p. 102) which is very rare in cultivation, if not quite lost sight of. It was described from a plant in the collection of Baron Hruby, of Holde, Bohemia. It is said to have been imported from New Granada, by Mr. Sander. It was described as differing from all known species of the genus in the narrow, erect side partition of the lip, and in the white colour of the flowers, which have only a few purple spots inside the lip. I should describe it, however, as pale whitish yellow rather than white, for I have seen living flowers cut from Baron Hruby's original plant. The Acinetas are very distinct in their Stanhopea-like habit and dense pendulous racemes of very fleshy flowers, and give a pleasing variety to a miscellaneous collection.

R. A. R.

ORCHIDS IN SEASON.

OWING to the long-continued cold winds and rain, together with the comparative absence of sunshine, Orchids are exceptionally late this year, and, unless a rapid change takes place, the period of maximum brilliancy will be deferred until well into June; indeed, we have seen the somewhat unusual sight of Odontoglossum crispum being hurried along in heat in order to get the flowers open in time for the Temple Show, a practice which must inevitably result in a falling-off in quality. Of course, spikes which pushed early enough open without such assistance, but these are, this season, fewer than usual. Cattleyas and Lælias are also correspondingly backward, and some that are open show a deterioration in the sepals, owing to the long spell of dull weather and the time they have been opening. The same thing is sometimes seen in C. Trianæ early in the season, and doubtless arises from the exposure of the sepals to atmospheric impurities, from which the petals and lip are protected, owing to their interior position. A spell of cold, dull weather which retards the opening of the buds is likely to cause this defect.

Lælia purpurata flowers abundantly at this season and is always one of the mainstays of the big Shows. A series of flowers from different collections shows well the amount of variation usually met with. Eight fine, well-grown forms are sent from the collection of H. W. Elliott, Esq., Elmfield, Selly Oak, by Mr. Darby. The more typical ones vary from white to pale lilac in the sepals and petals, with lip very rich purple, more or less tipped with white in front, and the throat varying from white to yellow lined with purple. Another is near var. Russelliana, being suffused with lilac-purple round the throat, and the veins rather darker, with the sepals and petals white. Eight others come from Mr. C. Young, of West Derby, Liverpool, and include a beautiful white form slightly tinged and veined with pale lilac round the throat, and thus near the variety Schrœderæ. Two others are very dark, the purple extending back along the sides lobes and also nearly obliterating the white in front, and one of these has also lilac-rose sepals and petals, approaching var. blenheimensis. A fourth, with white sepals and petals and a clear white area at the apex of the lip, is almost the old var. prætexta, while a fifth closely approaches var. Russelliana, having the lip large, rosy-lilac, darker near the light-yellow throat, and the sepals and petals tinged with lilac. The others are more typical. A very good form is sent from the collection of D. M. Grimsdale, Esq., of Uxbridge, in which the petals are broad and retain their shape better than in most others, which appear narrower owing to the way they reflex. The sepals and petals are white with the lip rich purple.

Lælia Boothiana is a rather rare but pretty, purple-flowered species of

which we have received a flower from Mr. William Brooks, of Weston-super-Mare.

Two fine forms of Cattleya Mossiæ are sent from the collection of R. B. Macbean, Esq., of Lancaster, from imported plants. One has a large amount of crimson veining on the front lobe of the lip, and the other, very large but fairly typical. A very beautiful flower, excellent in shape and richly coloured, is sent from the collection of J. Wilson Potter, Esq., of Croydon. This species is now flowering in quantity, and is remarkably variable in colour and deliciously fragrant.

A charming, pure white form of Odontoglossum crispum, with the usual clear yellow disc, is sent from the collection of D. M. Grimsdale, Esq., of Uxbridge. The raceme bears ten flowers, and the segments are broad and compact. With it are enclosed a more typical form of the species, a light form of O. triumphans with much yellow on the sepals and petals, the beautiful O. citrosmum, and flowers of Dendrobium Devonianum, which also is very effective just now.

A good inflorescence of the clear, bright yellow Oncidium concolor is sent from the collection of E. F. Clark, Esq., of Teignmouth, together with the handsome Cattleya Schilleriana and a good form of Odontoglossum Hallii.

A form of Cattleya Mossiæ is sent from the collection of Major-General Gillespie, Brynderwen, Usk, in which the front lobe of the lip is of a slaty-blue shade. Good typical examples of Odontoglossum triumphans and Lælia purpurata are also enclosed.

ODONTOGLOSSUM × DENISONIÆ.

A STRIKING and very beautiful variety of Odontoglossum × Denisoniæ has appeared in the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham. The ground colour is pure white, with a faint flush of rose in the sepals, each of which bears a transverse red-brown blotch below the middle, and a rounder, irregular one nearer the apex. The petals bear about three or four roundish spots near the middle, while the lip has two or three small blotches on either side of the crest and a larger one in front. On account of the white ground, it might pass for a form of O. crispum, were it not that the sides of the crest are developed into distinct teeth, as in other forms of this hybrid; the shape is also modified from that of typical O. crispum. The petals are an inch broad at the base and somewhat toothed and undulate, and the richly-coloured spots show very effectively on the clear white ground. It is much more spotted than the original form, though nearer to it than most others which have subsequently appeared.

CYPRIPEDIUM × SALLIERI.

Was the *original* Cypripedium × Sallieri a wild or an artificial hybrid? This question has several times been asked, and some two years ago I collected together all the evidence I could find upon the subject (*Orch. Rev.* V, pp. 51, 52), without finding a satisfactory answer. The question has been re-opened by "H. R. R." (*Journ. of Hort.*, April 6, p. 269), as follows:—

"CYPRIPEDIUM SALLIERI HYEANUM.—I recently noted a fine form of this variety flowering from an importation of C. insigne in one of our largest London nurseries. I was rather glad to have further proof that this is a natural hybrid, for possibly some of our readers may remember the very oracular criticism in the ORCHID REVIEW of my notes on the subject in the *Journal of Horticulture* some two years ago. Possibly the criticism was 'a feeler,' for most of the people who hold such strong and certain views on these botanical questions are not above getting a hint from practical growers, who usually find out the truth of what they are writing before committing themselves. Be this as it may, there can be no doubt—indeed, there was none before—that this Cypripedium occurs in a wild state. It is rather quaint to read that because C. insigne and C. villosum grow and are collected many miles apart, that therefore the possibility of a hybrid between them occurring is remote. Who, that has handled a number of C. insigne, has not noticed, in many cases, the villosum petals, with their lines of deeper colour on one side? I may say that in quite a number of cases it would be difficult indeed to say what the flower was, provided the upper sepal was taken off and only the lip and petals left. They are certainly more like villosum than insigne."

Thus "H. R. R." disposes of the matter to his own entire satisfaction, but I cannot help wishing he had told us a little more. However, I will take the liberty of asking him a few questions, and thus prove his remark, that I am "not above getting a hint from practical growers":—

1. Where did the importation of C. insigne which he speaks about come from?

2. Did any true villosum appear in the same importation?

3. As the recorded habitats of the two species are about five hundred miles apart, by what natural agency does he suggest that the pollen was transported?

4. Will he send me a flower of one of the numerous cases where, on the dorsal sepal being removed, it would be difficult to say whether the plant was villosum or insigne? I never yet saw among the hundreds of insignes examined any approach to the shaggy ovary of villosum.

It would also be quite legitimate to ask if, when a writer collects

the evidence on a question pro and con. and points out that some of it is contradictory, and the rest inconclusive either way, this can be called "very oracular criticism"? Also, what are the "strong and certain views on these botanical questions" which I hold?

If "H. R. R." thinks I have denied the existence of C. × Sallieri as a wild plant, I would ask him to read my article again, and a little more carefully. If the records are as true as "H. R. R." asserts, we may assume (1) that C. × Sallieri occurs wild, (2) that it occurs in Khasia, and (3) that villosum grows there also; in which case it ought to be found in the same importations.

Here are questions which it is open to anyone to answer:—

1. Where do the large importations of C. insigne montanum come from?

2. What is the habitat of the C. villosum recently sold as a new species?

3. Do these two species grow anywhere intermixed?

And while we are about it we might as well have a general clearing up, therefore:—

4. What evidence have we as to the existence of C. × Leeanum and C. × Arthurianum as natural hybrids? See *Orch. Rev.*, vi., p. 76.

Several very interesting questions await solution, and I would earnestly commend them to the attention of "H. R. R." and others.

R. A. R.

LÆLIA JONGHEANA.

It is a matter of considerable interest that the rare and beautiful Lælia Jongheana has been re-introduced, and that a first flower has expanded with Mr. A. J. Keeling, Cottingley, Bingley, Yorks. Mr. Keeling states that it is from an importation sold last year by Messrs. F. Sander & Co., as Lælia species, and that he has other plants showing for flower. The full history of the species has been given in this work (*O. R.*, iv., p. 278), so that it is only necessary to add that the flower is bright rose-purple, with the throat and keels of the lip orange-yellow. The keels are eight in number, very prominent, and undulate in front, and thus the species comes nearest to L. Dayana, though the flowers are far larger, the sepals and petals measuring $3\frac{1}{4}$ inches long. The plant is also larger, and owing to the shape of the concave leaves, and the pseudobulbs it can but be compared with L. longipes in these characters. Now that it has been re-introduced we hope to meet with it much more frequently in future.

R. A. R.

NATIONAL ORCHID SOCIETY OF INDIA.

THE formation of this Society, which is due to the initiative of Mr. P. S. Chattergee, the well-known Calcutta nurseryman, was mentioned in my previous notes at page 140, and its first show, which was held at the Victoria Nursery, Narcoledangan, Calcutta, from March 6th to 12th last, in connection with Mr. Chattergee's Annual Orchid Show, was really the starting point of the Society. Several members exhibited handsome collections, so as to give to this first Orchid fête all its beauty; no less than eight competitors entered, and, we may say, that it has totally surpassed all anticipation.

The Victoria Nursery is splendidly adapted for such a fête, and its large conservatories were laid out—with a great deal of taste—with rock-works, artificial undulations of the ground, as well as a lake, all in the very best condition for an Orchid show.

We must first mention M. Chattergee's exhibit, being the largest, and certainly the finest, as far as varieties and number of plants go. It occupied the whole of the first conservatory, a building over 300 feet long. Our favourites were suspended amongst foliage plants, an excellent idea, which is far superior to crowded groups, where many interesting things are often lost from sight. There could be seen beautiful representatives of our Oriental Orchid flora, as well as others, and we were much interested in noticing the numerous variations amongst one of our commonest Orchids, Dendrobium nobile, including D. n. nobilius, Cooksonianum, Sanderianum, as well as D. n. album, a beautiful white form, which would be welcome in some of our home sale rooms.

D. aggregatum, and its variety majus, were also conspicuous, together with D. Farmeri and D. chrysotoxum. A well-flowered specimen of D. undulatum bearing four long spikes, and a few late D. Phalænopsis, were also to be seen. Another Dendrobium also attracted our attention, probably a variety of D. Johannis. It is a native of Australia, of dwarf habit, bearing a spike about 9 to 12 inches long, with brownish flowers in the shape of a small D. undulatum. Very handsome also was D. lituiflorum var. Fremanni, bearing richly-coloured flowers. It is very seldom seen in European collections.

Phalænopses were simply delightful, and we appreciated them as a home Orchid grower would do, but, as a matter of fact, they do thrive wonderfully well over here, and are found in every Indian collection; P. Schilleriana, amabilis and grandiflora were represented by nothing under six or seven dozen. No word can express such a beautiful display.

Paphiopedilums were represented by P. insigne, exul, venustum, Spicerianum, and callosum, and Oncidiums by some fine specimens of O.

Cavendishianum, ampliatum majus, luridum, and splendidum. Always bright is the little Broughtonia sanguinea, which seems to do fairly well here. Cattleyas were also represented by C. Lueddemanniana (speciossima), Trianæ, Mendelii, and a pretty form of C. intermedia, although their culture presents a certain amount of difficulty over here. Phaius Wallichii was also beautiful, bearing spikes two feet long with a quantity of flowers. Here Phaius are mostly planted out, and are far ahead of anything of the kind seen at home. The latter portion of the above-mentioned plants were grouped with excellent taste in a small glass house.

Amongst other exhibits we must mention the collection of Mr. Dooly Chand, to which was awarded the great medal. His Orchids were distributed amongst a beautiful lot of foliage plants, and were tastefully arranged. Here a strong specimen of Stauropsis Batemanii (Vanda gigantea), bearing seven large flowers, called our attention, as well as a curious form of Cymbidium somewhat close to aloifolium, and various kinds of Dendrobes and Oncidiums, for which the competitor took special prizes.

Two gold mdals were awarded to M. Joy Gobind Law, C.I.E. The first was for the largest collection of any Orchids in flower, amongst which we noticed Lælia glauca, Broughtonia sanguinea, Dendrobium undulatum, D. albosanguineum, D. superbum, D. crepidatum, Oncidium splendidum, O. Cavendishianum, and various others. The second was for the largest group of Phalænopsis in flower. This exhibit was a real gem, although mostly composed of P. Schilleriana and amabilis, of excellent culture. We noticed several variations amongst Schilleriana, chiefly in the spotting of the sepals and lips.

A Silver Medal was awarded to the head gardener of Eden Gardens, Calcutta , for the largest collection of Phaius in flower. Although there was only P. Wallichii, the display was really great. Some of the spikes were about two feet high, and the flowers so richly-coloured as to remind us of those of the beautiful P. × Cooksoni.

Amongst other competitors who took first prizes, we must mention Mr. A. K Rose and Mr. H. E. Gatche, the former showing an interesting group of Paphiopedilums. Prizes for Aërides, Calanthe, Cattleya, Cymbidium, Odontoglossum, Saccolabium, and Vanda, were not competed for, it being a little too early for such varieties to bloom.

It ought to be mentioned that Mr. Chattergee did not enter into any of the competitions, and that the success of the abov show is mostly due to his generosity. Our esteemed friend is actuall building a permanent house for the Society, to be called, with His Excellency Lord Curzon's permission, the Curzon House, where the N. O. S. I. will be able to hold its future shows.

The Society intends holding exhibitions at different parts of India in connection with some provincial flower show, to encourage the cultivation of Orchids, which is just beginning in this country. Periodicals will be published on special subjects dealing with Orchids in India.

The above Society is under the patronage of H.E. the Commander-in-Chief, and His Honor the Lieut.-Governor of Bengal. The work done by it has already been appreciated, for the visitors were numerous every day, and we noticed among them many of our Calcutta leading Society.

We certainly wish this new enterprise the most brilliant success.

A. GRIESSEN.

FEEDING ORCHIDS.

IN reference to your remarks on my note (p. 144), I may say that, before systematically using the salts referred to, I asked my gardener to use them regularly on a group of plants in each house, without telling me which they were, leaving me to discover them by results. In each case I was soon easily able to pick them out, and everyone who saw them noticed the improvement as compared to the plants not so treated. After this I had no hesitation in regularly using the salts on all growing plants, and feel thoroughly satisfied that moderate applications of plant food are an advantage. Manure-water I do not believe in, for many obvious reasons, but a pure solution of salts is a very different thing.

NORMAN C. COOKSON.

ORCHID SALE AT MANCHESTER.

A SALE of duplicate and surplus Orchids from the collection of F. Hardy, Esq., was held on the premises, Tyntesfield, Ashton-on-Mersey, on May 16th and 17th, Messrs. Protheroe and Morris being the Auctioneers. Some good prices were realised for choice things, a plant of Cypripedium Fred Hardy being sold for 50 guineas, C. × J. H. Veitch with two growths 80 guineas, a smaller plant with one growth 52 guineas, C. insigne Sanderæ 31 guineas, Lælio-cattleya × bella 46 guineas, L.-c. × Pallas superba 40 guineas, L.-c. × Macfarlanei 22 guineas, a fine Cattleya Mendelii 45 guineas, C. M. Quorndon House var. 42 guineas, C. Mossiæ Wageneri 21 guineas, Lælia purpurata Hardyana 18 guineas, and L. anceps Amesiæ 14 guineas. The sale realised on the first day about £1,100, and on the second, £800. Many of the leading buyers were represented.

ODONTOGLOSSUM CRISPUM HELIOTROPIUM.

SEVERAL choice and distinct forms of Odontoglossum crispum have already appeared in these pages, and now we give a figure of the beautiful O. c. heliotropium, from the collection of R. Brooman White, Esq., of Arddarroch, which received a First-class Certificate from the Royal Horticultural Society on April 27th, 1897. The photograph reproduced, together with one of the entire raceme, and a living flower were kindly sent by Mr. White at the time, and were noted in our pages (*supra* v. pp. 131, 158). The shape and details of the flower, as will be seen, are excellent, and the ground colour is bright lilac-rose with red-brown spots, those on the petals being smaller and more numerous. The flower sent

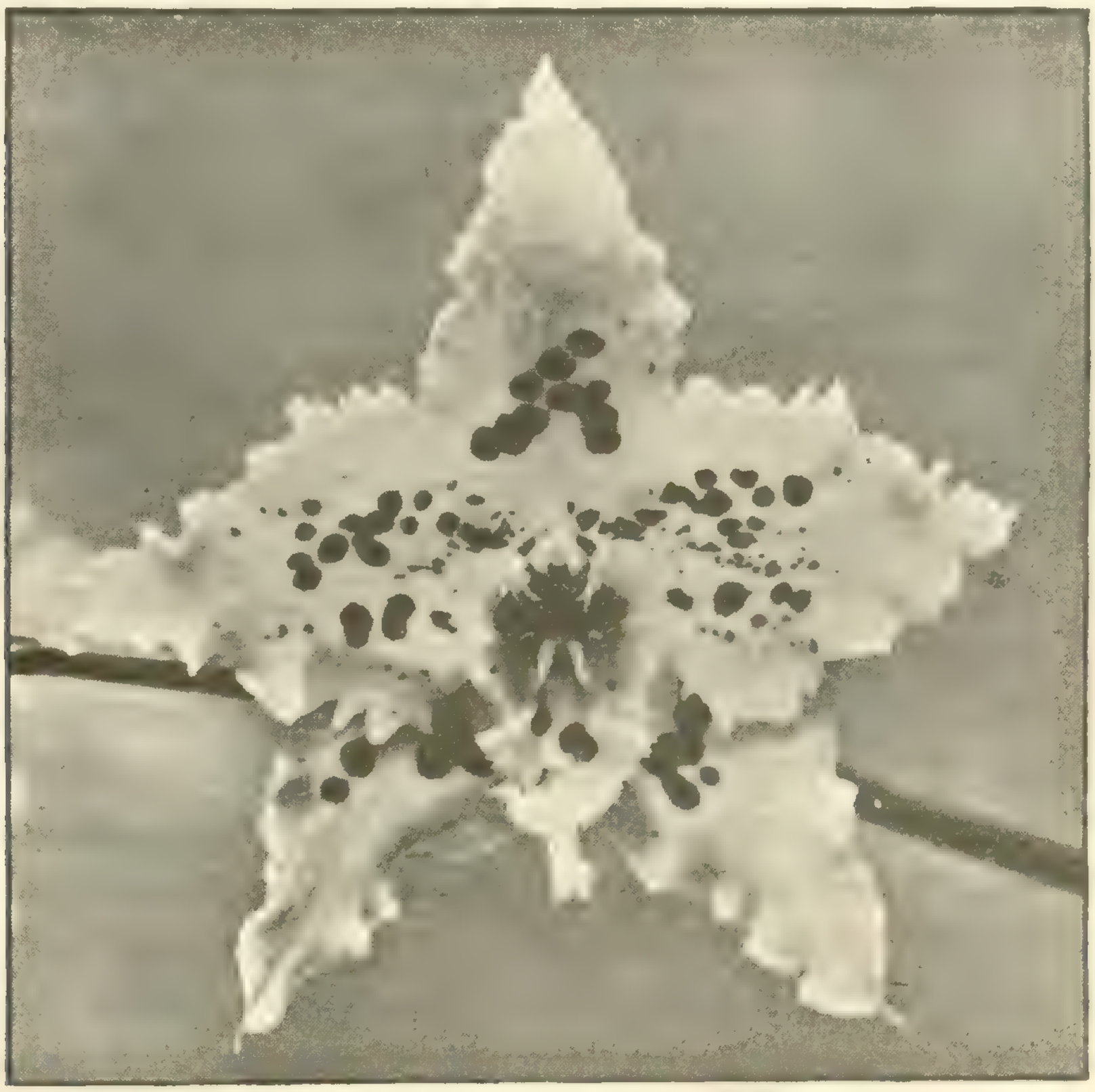

FIG. 12. ODONTOGLOSSUM CRISPUM HELIOTROPIUM.

was not large, measuring three inches from tip to tip of the petals, but the raceme was compact, and bore eleven flowers, so that it will probably improve in this respect as the plant gains in strength. Size is largely a matter of culture. Our reproduction is the actual size of the flower sent. It is remarkable what a number of distinct varieties of this beautiful species have appeared, and a large number of the named ones would stand the test of close comparison side by side. Now that the raising of Odontoglossums from seed is being attended with more success, we may hope someone will try the effect of crossing these choice varieties together.

CALENDAR OF OPERATIONS FOR JUNE.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperatures and general management of the various houses advised in last month's Calendar should be continued during the present month, and the details should be well attended to, as they are most important, in order that steady growth should be maintained.

The Cattleya house has been extremely gay of late, and during the present month there will still continue to be a brilliant show. Lælias purpurata and tenebrosa, Cattleyas Mossiæ and Mendelii, Miltonia vexillaria and Odontoglossum citrosmum, have all largely contributed to the display with their showy flowers. All of them start to grow away immediately the blooming period is over, and no time should therefore be lost before the necessary re-potting and top-dressing is completed, so that they may at once make use of their first and best roots. I have in previous Calendars fully described the methods of re-potting, and advised that it should not be done too frequently, simply for the sake of doing it whether wanted or not, so that it is now only necessary to call attention to two of them particularly.

The first is Miltonia vexillaria, which, as I have before said, may either be re-potted during the first or second month of the year, or left until blooming is past, whichever way is found in practice to succeed the best. I find it is best not to leave them longer than two years without turning them right out and supplying wholly new materials, which should consist of equal portions of peat and moss. At whatever season of the year re-potting takes place, it is always the safer plan to employ small pots, in accordance with the size of the plants, for too much pot room is frequently the primary cause of collapse. They may sometimes have been seen growing luxuriantly in very large pots, but that is only when the position and the general conditions suit them exactly, and when such is the case one can scarcely do wrong with them. If they are grown in the Cattleya house, in smallish pots, kept perfectly free from yellow thrip, a good amount of water given during summer and a very limited supply during winter, this species will generally respond very willingly, and suffer nothing from re-potting.

The second which I wish to mention is Odontoglossum citrosmum, which, I am bound to say, takes some little time before it thoroughly recovers from a real shaking out. Bearing this in mind, one must be careful to disturb the roots as little as possible, and only to re-pot the plants when really necessary. I like to grow this species in baskets or pans, using good fibrous peat alone, and pressing it in firmly, which keeps the roots in a good, sound condition for a long time. If grown in the conditions of the Cattleya house, watered pretty freely from now throughout the summer, and kept very dry

throughout the winter, they will, when well established, produce enormous pseudobulbs, yielding in their turn fine spikes of bloom.

Vanda teres is a most lovely species, and fully deserves a place in every collection. It is not in the least difficult to grow, but under some circumstances is shy to bloom. Some of them appear to bloom much more easily than others. The best way to grow this species is in pots, in the centre of which a stout teak rod should be firmly fixed, round which a dozen to two dozen plants should be tied in position until they are made firm by their own roots, which soon happens. All that is then required is that they should be placed in a sunny position in a warm house, such, for instance, as the south end of a stove, where they should remain unshaded, and where they can easily be syringed several times daily. Such is the way they are grown at Parkfield Hallow, and when in flower nothing could form a grander sight. Vanda Hookeriana is another beauty, and I may mention that it is similarly treated with the same happy results.

Lælia anceps and other inmates of the Mexican department are now growing and rooting freely. This house, having no shading and consequently requiring large volumes of air to prevent burning, will naturally soon become dried up. In order to prevent the atmosphere from getting too parched, the flowers and between the pots should be damped down pretty frequently throughout the hottest part of the day. They should also receive a thorough good syringing overhead the first thing in the morning, which will do a great amount of good, and supply their wants in this respect until well on in the day. Towards evening, when the heat from the sun is declining, they should again receive a good syringing, bearing in mind always to use lukewarm water for this purpose. Any flowers that may be opened will not be disfigured or injured in the least, provided a little warmth is maintained in the hot water pipes during the nights. If this is not so, the flowers soon become spotted with the moisture, and are spoilt. The inmates of the Cattleya house also delight in the above treatment as to overhead syringing.

Diacrium bicornutum is now in flower, and among white flowering Orchids there are few more delicate and beautiful. It is a pity that it will not grow well unless in a strong, moist heat, in fact, it is almost useless to attempt its cultivation unless the conditions of the East Indian house are at hand. There it grows freely enough, seeming to relish about the same atmospheric treatment as is given to the genus Phalænopsis. Small hanging pans or baskets are preferable, and a liberal amount of water should be given throughout the growing season.

Epidendrum prismatocarpum is an easily-grown species, and the good varieties are most beautiful and attractive. The racemes appear from the top of the last-formed pseudobulbs, and are erect and about a foot

long, bearing many flowers, the sepals and petals of which are more or less yellow, covered with purple blotches, and the lip rose-coloured. In some varieties these blotches are intensely bright and cheerful, which, of course, assists in making the good variety. It should now be in bloom, and large, well-grown plants are always admired, and formerly were much used as specimen plants for exhibition. It is best grown in pots, well drained, and in the usual compost of peat and moss in equal parts, and prefers rather a warm temperature, such as the Cattleya house. They may also be well grown in an ordinary stove.

Epidendrum vitellinum is a beautiful species, well known to all Orchidists, and is largely imported and cultivated. It usually admits of easy growth if placed with the Odontoglossums in the coolest department, with plenty of water during summer and but little during winter. The flower spikes are now pushing up apace, and will open next month and brighten up this department when the glut of Odontoglossum crispum, Masdevallias, &c., is past. Re-potting is not often necessary, as it resents root disturbance, though it should be kept nicely top-dressed, and always secured firmly if at all unstable. It then gives but little trouble, and will eventually produce fine, fat pseudobulbs, pleasing to look upon.

Epidendrum atropurpureum (macrochilum) is another very striking species when well grown and flowered. The spikes are about twelve to eighteen inches long, erect, carrying from six to twelve rather large, substantial flowers, the sepals and petals being brown and the lip purple or white with a large, purple blotch round the base—forming altogether a very attractive flower. It is a species which requires a good deal of heat during the summer months to grow it well, and is best grown in a basket suspended near the glass in the warmest department.

Epidendrum nemorale is another belonging to the same section as the last-named, and is a neat and pretty species, requiring a good amount of warmth and moisture when growing, but during the winter a good, dry rest in the Cattleya house, such as is given to Catasetums, Mormodes, Lælias, Dendrobiums, &c. Epidendrums Wallisii, xanthinum, Cooperianum, radicans, evectum, tovarense, syringothyrsus, and × O'Brienianum are other very desirable kinds, belonging to the slender, reed-like growing section, for all of which Intermediate treatment is admirably suited. They revel in copious supplies of water during summer, and during winter they must never be dried too much, or they may suffer, their manner of growth not being adapted to long droughts.

Epidendrum (Nanodes) Medusæ is an extremely curious and striking species, and has short, leafy stems, though, instead of growing erect as others do, the weight of its thick, fleshy leaves soon causes them to take a pendulous direction. The flowers, which are produced singly or in pairs

from the apex of the completed new growths, are perhaps more curious than beautiful, yet there is something very striking and unusual in the deep purple, heavily-fringed lip which takes the eye immediately, and altogether it is a most desirable Cool-house species. It should be grown in pans or baskets, and suspended in the Odontoglossum house, and in other respects treated exactly as the other inmates.

Bulbophyllums and Cirrhopetalums are small, compact-growing plants, and give a great deal of pleasure and interest in return for the small space required to grow them. Some of the latter especially are most wonderful in the fantastical colouring and formation of their flowers. They are all best grown in small pans or baskets, and if a shelf or some such position can be secured for them pretty near or, say, about two feet from the roof in a Warm house, their wants are supplied to a nicety. When growing, their treatment as regards water should be exactly as for Dendrobiums, a liberal quantity being given, and, when growth is completed, their resting season also corresponds to that genus.

Trichopilia (Pilumna) fragrans is a lovely species, which should be treated exactly like its nearest allies, the majority of which are now, or have lately been, in bloom. Some of these are particularly handsome, the best three perhaps being T. suavis, T. coccinea, and their varieties. They all thrive well grown in equal parts of peat and moss, in Intermediate temperature, and must never be allowed to get into a sour condition at the roots for want of re-potting, which should be done about once in two years. A pretty good supply of water is essential while growing, but care should be taken not to overdo them with it, or the roots perish, and a disease, in the form of black marks and spots, carries them off eventually. They may also be well cultivated in pans or baskets, and perhaps these are to be preferred, for then they may be suspended when in bloom, which is the better plan, as the flowers are produced on short stems, and reach very little beyond the rim of the pot in which they are growing, so that, unless suspended, their full beauty is partly lost.

There is much now to interest the enthusiastic grower, not in the show of bloom so much as in the growth and general prosperity of his plants. On every hand healthy new breaks and roots are appearing, and it is one of his chief pleasures to watch them and remark such progress on each visit. All will be well if previous cultural instructions are observed, and a sharp watch kept for deadly enemies in the shape of insect pests, none of which should be allowed to exist. Take particular care that the Cattleya fly is not allowed to breed on any recently-imported Cattleyas, otherwise serious apprehension may be felt for the following year.

ORCHIDS AT GHENT.

ORCHIDS were well represented at the Great Horticultural Exhibition promoted by the Ligue Horticole "L'Union" for East Flanders, which was held from April 30th to May 9th, being opened on the former date by H.R.H. Prince Albert of Belgium.

M. Ch. Vuylsteke, Loochristy, exhibited a very striking lot of artificially-raised hybrid Odontoglossums, consisting of O. × loochristiense, O. × spectabile and O. × Rolfeæ, with beautiful varieties of each, which, however, were all specifically named. He was unanimously awarded the first prize of 500 francs, together with a work of art.

The same exhibitor gained the first prize, and a table-service for twenty-four persons, for a group of seventy-five Orchids. It included Odontoglossum ioplocon and other fine species, Masdevallia Veitchiana grandiflora, Houtteana, coccinea Lindeni, and others, the handsome Miltonia × Bleuana, M. vexillaria virginalis, a very fine Cymbidium Lowianum, &c.

M. Vuylsteke also obtained the first prize and a Gold Medal for thirty Odontoglossums, the most noteworthy being O. luteopurpureum hystrix, particularly fine; O. × cuspidatum xanthoglossum, O. triumphans, O. t. maximum, particularly fine; a very good O. × excellens, O. gloriosum, and O. crispum guttatum.

For ten Masdevallias, M. Vuylsteke was also first, his group including M. Veitchiana grandiflora, M. Harryana splendens, M. ignea aurea, M. i. majestica, &c.

M. A. A. Peeters, of Brussels, obtained the first prize and a work of art for the best fifty Orchids, specially noteworthy being Cattleya Schilleriana, a superb C. Mendelii, C. Warneri, C. × Parthenia gratissima, Cochlioda vulcanica grandiflora, Odontoglossum crispum guttato-violaceum, beautifully tinted and spotted, O. Hallii leucoglossum, O. Ruckerianum, various Miltonias, &c.

For a collection of twenty-five Orchids, Messrs. E. Praet & Co., Mont St. Amand, obtained the first prize and a work of art, the group includin Cœlogyne cristata, Cattleya Schrœderæ, Odontoglossum × Ruckerianum, Vanda tricolor, Cypripedium villosum, C. × Dauthieri, Miltonias, &c.

Messrs. E. Praet & Co. also obtained the prize for the best Epidendrum, the best Cymbidium Lowianum, Oncidium sarcodes, also the finest Cattleya Mossiæ.

For the best Cypripedium, M. Jules Hye-Leysen took the first prize and a Silver Medal, with C. × Flamingo, a fine variety of C. × Calypso.

A similar award went to the same exhibitor for the best Lælio-cattleya, a beautiful hybrid between Lælia purpurata and Cattleya Lawrenceana.

M. Jules Hye also secured first prizes for the charming Dendrobium

nobile Ballianum, for a large plant of Dendrobium Boxallii with a dozen blooms, for a fine Odontoglossun triumphans, for Angræcum sesquipedale with ten blooms, for Cattleya Lawrenceana Hyeana, with a deep-purple lip, and for the best Masdevallia, with the orange-red M. × Pourbaixii.

M. Van Beerleere, Mont-St.-Amand, showed groups of thirty and fifteen Cypripediums. He had also the best dozen examples of one species suitable for use in apartments, Odontoglossum crispum.

Messrs. F. Sander & Co. showed a fine natural hybrid Odontoglossum, called O. × Prince Albert, with handsome yellow flowers blotched with brown.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.

THE great annual Whitsuntide show of this Society was held at the Gardens, Old Trafford, from May 19th to 25th, and, as usual, attracted a large number of Orchids, though the display was not equal to that seen on several previous occasions, and the very few exhibits from amateurs was specially remarked. For this falling off, however, several causes may be assigned, which, collectively, must have had some influence on the exhibits. The season is very backward, in proof of which we may mention that Mr. Statter, who for the last four years has carried off the prize for the best Cattleyas and Lælias, failed to get his plants out in time. Then the great Temple Show on this occasion followed almost immediately; besides which, there is a slight falling off in the prizes, and we do not notice any special awards in the schedule, as on some previous occasions. Added to this, there is a feeling, which was voiced by Mr. Thompson, at the luncheon, that the show is too long, and that the plants suffer in consequence. The trade exhibits, however, were numerous and good, as will be seen from the following report. The arrangements for the show were in the hands of Mr. P. Weathers, secretary and curator, and were admirably carried out. The Judges for Orchids were: Mr. A. Hislop, gr. to H. S. Leon, Esq., of Bletchley Park, and Mr. W. H. Young, Orchid grower to Sir Frederick Wigan, of East Sheen.

The first prize for the best collection of Orchids in bloom (nurserymen) was carried off by Mr. James Cypher, of Cheltenhem, with a splendid group which filled the end of the exhibition house, and was very tastefully arranged in two curved bays. In the background were many good examples of Lælia purpurata, with a few other large things, as Cymbidium Lowianum, Epidendrum radicans, E. × O'Brienianum, &c., while suspended in the centre were a number of well-flowered examples of Oncidium concolor and Sophronitis grandiflora, the scarlet and yellow forming a very effective

contrast. There were also some good Miltonia vexillaria. Other noteworthy things were a fine Cattleya Skinneri, C. Schilleriana, some fine C. Mendelii and Mossiæ, several C. citrina, C. Aclandiæ, Epidendrum vitellinum, the remarkable Lælia Digbyana, some good L. cinnabarina, fine examples of Rodriguezia fragrans and Leptotes bicolor, both covered with flowers, Phalænopsis Lueddemanniana with five spikes, various good Odontoglossums, among which we may enumerate the striking O. Edwardii, ramosissimum, and good examples of O. crispum, × Andersonianum, Pescatorei, Rossii, and cirrhosum, Vanda teres, Ada aurantiaca, some good Masdevallia Veitchiana and Harryana, Oncidium Kramerianum and sarcodes, Thunia alba, Cypripedium × Schrœderæ, hirsutissimum, exul, × Goweri, and several good C. Rothschildianum, bellatulum, villosum, and Lawrenceanum, some splendidly grown D. nobile—one specimen having bulbs nearly 4ft. long and crowded with flowers—D. atroviolaceum, Parishii, Bensonæ, thyrsiflorum, Devonianum, and other handsome things. The beautiful Dendrobium × Nestor and a very fine Cypripedium niveum each received an Award of Merit, and Cattleya Mendelii princeps, which is large and excellent in shape, a First-class Certificate.

The second prize went to Mr. John Robson, of Altrincham, for a large group of well-cultivated plants, including most of the usual showy species. Our notes include the beautiful Diacrium bicornutum, Phalænopsis amabilis, Vanda suavis, three good Phaius Wallichii Sanderianus, Dendrobium infundibulum, and pulchellum, Oncidium Marshallianum, Cattleya Skinneri alba, good examples of Odontoglossum crispum, one fine, nearly white form, bearing fifteen flowers and buds, O. apterum, Lælia tenebrosa, Cypripedium Mastersianum and Dayanum. and good examples of many of those mentioned in the preceding group.

Messrs. Heath and Son, Cheltenham, were third with a smaller group also containing good examples of the popular Orchids of the season, including Dendrobium chrysotoxum and Odontoglossum citrosmum.

The corresponding class for amateurs contained no entries.

For the best collection of Cattleyas and Lælias (open) Mr. J. Cypher was first, with well-grown examples of C. Skinneri, Mossiæ, Mendelii, Lælia purpurata, Digbyana, Lælio-cattleya × Canhamiana, and others. The second prize went to Messrs. Heath and Son, Cheltenham, who staged chiefly examples of C. Mossiæ and L. purpurata.

For ten specimen Orchids in bloom, made-up plants excluded (open), Mr. J. Cypher was again first, his examples of Oncidium Marshallianum, also Calanthe veratrifolia and Dendrobium nobile, being excellent, the remainder including some good Cattleyas and Lælias, with the graceful Cœlogyne Dayana. The second prize went to Messrs. Heath and Son, who staged examples of Odontoglossum citrosmum, Cymbidium Lowianum,

Cypripedium Lawrenceanum, Lælia purpurata, a good Cattleya Skinneri, and others. T. Harker, Esq., Withington (gr. Mr. Mulloy), was third, with Dendrobium chrysotoxum, D. Wardianum (nearly over), D. Devonianum, Cattleya intermedia, C. Schrœderæ, &c.

Orchids had also been used very effectively in the Hand Bouquets with which Mr. John Mosley carried of the first prize. We also noticed some good specimen Orchids in the groups of miscellaneous plants arranged for effect, one good Oncidium sphacelatum being the only one observed in the Show.

Six non-competitive groups were staged, to which Gold or Silver Medals were awarded according to merit.

Messrs. Charlesworth & Co., Heaton, Bradford, received a Gold Medal for a fine group of well-cultivated plants, in which most of the showy species of the season were well represented. The special features were some good forms of Odontoglossum crispum, luteopurpureum, polyxanthum, and other species, the brilliant Epilælia × Charlesworthii, and Epiphronitis × Veitchii, various good Cattleyas and Lælias, including L. × Latona with a five-flowered raceme, the pretty Ornithocephalus grandiflorus, Cypripedium × Mansellii, the pretty little C. × conco-villosum, an unnamed hybrid between C. Lawrenceanum and C. Mastersianum, C. × Gertrude Hollington and others, Maxillaria Sanderiana, Dendrobium Dearei and atroviolaceum, a fine Oncidium Marshallianum, O. concolor, Masdevallia ignea, Veitchiana, and various other interesting things.

Messrs. John Cowan & Co., Gateacre, also received a Gold Medal for a large and effective group, including most of the showy species of the season. We noted a fine example of Odontoglossum Hallii with a panicle of twenty-five flowers, O. tripudians, O. Cervantesii, and various others, a good specimen of Dendrobium Devonianum, D. Jamesianum, Sobralia macrantha, Rodriguezia fragrans, Oncidiums superbiens and sarcodes, some charming light forms of Lælia purpurata, good Cattleya citrina and others, Cypripediums, &c.

The other group which secured a Gold Medal was staged by L'Horticulture Coloniale, Brussels, and was distinguished by a series of very beautiful Odontoglossums, both species and hybrids, including several pretty varieties of O. × Adrianæ, × Andersonianum, × Wilckeanum, and crispum, also O. × cirrho-Hallii, Hunnewellianum, sceptrum, and others, a good Cochlioda Nœtzliana, Cypripedium × Goweri, Miltonia vexillaria, and other good things. First-class Certificates were given to Odontoglossum × Adrianæ tigrinum, a dark, well-spotted form, and O. crispum Countess of Derby, bearing a branched raceme of twenty medium-sized flowers, with numerous small, round spots; and Awards of Merit were given to O. × Ruckerianum Queen Victoria, O. × Adrianæ fascinator, with

tinted ground and a few largish spots, Miltonia vexillaria candidula, and **M. v. vittata.**

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged an effective group of choice things, to which a Silver Medal was given. Noteworthy in it were Cattleya Skinneri alba, C. Trianæ, C. T. alba, Spathoglottis Kimballiana, Odontoglossum × Adrianæ, some good O. crispum, sceptrum, triumphans, a fine O. × excellens, the pure white O. Pescatorei virginale, and others. First-class Certificates were given to Cattleya intermedia alba and Odontoglossum × Andersonianum giganteum.

Messrs. James Veitch and Sons, Chelsea, also received a Silver Medal for a choice group, consisting chiefly of hybrids, among which we noted Epidendrum × radiato-Bowringiana, E. × elegantulum luteum, Spathoglottis × aureo-Vieillardii, Lælio-cattleyas × Ascania, × Pallas, × Hyeana and × Wellsiana, Cattleya × Philo and × intertexta, with a few others.

Mr. D. Gilmour, Sandygate, Sheffield, also received a Silver Medal, his group containing chiefly good Cattleya Mossiæ, with examples of C. Mendelii and Schrœderæ, Odontoglossum crispum, × excellens, × Andersonianum and Oncidium Kramerianum. Cattleya Mossiæ received an **Award of Merit.**

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

An ordinary Meeting was held at the Coal Exchange, Manchester, on May 11th, when the members of the Committee present were:—Messrs. Thompson (in the chair), Shorland Ball, Weathers, Holmes, Stevens, Johnson, Robson, and Mills (hon. sec.). Mr. De Barri Crawshay, of Sevenoaks, was also present and was invited to assist the Committee in their deliberations.

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a well-grown plant of Angræcum Sanderianum with two large spikes (F. C. & Cult. C.), Cattleya intermedia alba (F. C.), Cymbidium tigrinum, a well-cultivated plant of this pretty species carrying six flower spikes (A. M. & Cult. C.), and a wonderful plant of Dendrobium Devonianum with nearly five hundred flowers fully expanded (Cult. C.).

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Cattleya Skinneri oculata (A. M.), and a very fine form of Cypripedium Lawrenceanum Hyeanum, which received a First-class Certificate last year.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed Lælio-Cattleya × **highburyensis.**

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Odonto-

glossum polyxanthum grandiflorum, an exceptionally fine variety (F.C.), O. crispum grandiflorum, an immense flower, and the plant well-grown (Cult. C.), Cattleya Mendelii, and Cattleya Schilleriana.

Dr. E. J. Sidebotham, Bowdon (gr. Mr. Shiner), showed Cypripedium caudatum.

Duncan Gilmour, Esq., Sheffield (gr. Mr. Day), showed four very fine forms of Cattleya Mossiæ, namely, Sandygate Beauty, grandiflora, Distinction, and imbricata, the last-named receiving an Award of Merit.

Mr. A. G. Keeling, Bingley, showed Odontoglossum Rossii majus, and Cattleya Schrœderæ splendens.

Mr. John Robson, Altrincham, showed Cypripedium Rothschildianum giganteum (A. M.), Diacrium bicornutum, and Cattleya Skinneri alba.

Annual General Meeting.

The Annual General Meeting was held at the same place at 2.30 p.m., and the chair was taken by W. Thompson, Esq., who was supported by a large number of members. Dr. E. J. Sidebotham, the Hon. Treasurer of the Society, having presented his balance-sheet, which showed a sum of £52 in the bank to the credit of the Society after paying all liabilities, Mr. T. Mills, Hon. Secretary, stated that there had been twenty new members added during the year; the number of exhibits brought before the Committee during the year was 773, and the three medals to be awarded to those members who obtained the highest number of points had been won as follows:—

Gold Medal	J. Leemann, Esq.
Silver-Gilt Medal	...T. Statter, Esq.
Silver Medal	...G. Shorland Ball, Esq.

Mr. Mills concluded by stating that he found he would be unable to continue the duties of Hon. Secretary, and much regretted to have to resign that office. A resolution was then passed accepting Mr. Mills' resignation with regret, and resolving that a cheque for £10 10s. be handed to him in recognition of his services during the past year.

The following were then elected members of the Committee:—Messrs. Thompson, Shorland Ball, Law-Schofield, Statter, Greenwood, Gratrix, Warburton, Hodgkinson, Sidebotham, Lovell, Parker, Bolton, Rappart, Duckworth, Leemann, Cypher, Robson, Holmes, Johnson, Stevens, and Upjohn.

Mr. P. Weathers was appointed Hon. Secretary for the year, and Dr. E. J. Sidebotham Hon. Treasurer.

Resolutions were then passed deciding that, in future, the painting of flowers required by the Committee should be done at the expense of the Society, and that no Cultural Certificates should be awarded in respect of plants that had not been in the possession of the Exhibitor for twelve months at the least.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was again a good display of Orchids at the Drill Hall, James' Street, Westminster, on May 2nd, though the exhibits were less numerous, and consequently not so crowded, as on the last occasion. The members of the Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien) hon. sec.), H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, J. Colman, S. Courtauld, De B. Crawshay, J. G. Fowler, J. T. Gabriel, E. Hill, J. Jaques, H. Little, F. Mason, A. Outram, H. T. Pitt, W. H. Protheroe, A. H. Smee, T. Statter, W. Thompson, W. H. White, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking, (gr. Mr. White), staged a charming little group, to which a Silver Banksian Medal was given. It contained a good example of the handsome Cirrhopetalum Collettii, a very fine specimen of C. Cumingii bearing twenty-nine of its handsome umbels of rose-purple flowers, Masdevallia O'Brieniana, a fine example of the remarkable Pleurothallis ornata, Dendrobium crepidatum, and a fine darker-coloured variety called var. maximum, the handsome D. × Nestor, D. × micans giganteum, a large and handsome form, and D. × Stratius.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), staged a small group of choice things, to which a Silver Flora Medal was given. It contained a pretty blush-white form of Cattleya Mendelii, the rare Odontoglossum nevadense, a large and handsome form of O. triumphans, and a series of eleven distinct forms of the variable O. × Andersonianum, three of them each receiving an Award of Merit, namely, O. × A. Mrs. De B. Crawshay, a large cream-white flower with a few red-brown spots; O. × A. Raymond Crawshay, cream-white, with many small spots and markings confined to near the middle of the segments; and O. × Ruckerianum rosefieldense, with purplish-rose ground well spotted with brown.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), also received a Silver Flora Medal for a small group of choice things, including Lælio-cattleya × Hippolyta aurantiaca with orange-coloured flowers, the very handsome Odontoglossum × Ruckerianum ocellatum, two handsome forms of O. crispum, a light form of O. × excellens with branched inflorescence, O. sceptrum Stevensii, a very fine O. polyxanthum with two spikes, to which a Cultural Commendation was given, and O. luteopurpureum Thompson's variety, with rich brown sepals and petals becoming yellow only at the tips, and the ground colour of the lip white, to which a similar award was given.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed Odontoglossum triumphans Dulcote variety, a large form with broad dark-

brown sepals and petals and comparatively little yellow, to which an Award of Merit was given.

F. M. Burton, Esq., Gainsborough, showed a very fine form of Odontoglossum polyxanthum, and Cypripedium × tessellatum porphyritis, a very bright rose-purple flower with a few blackish spots on the petals.

R. G. Fletcher, Esq., Withdean, Brighton, sent examples of Phragmipedilum caudatum and its pouchless variety Lindeni.

W. A. Gillett, Esq., Fairoak Lodge, Bishopstoke (gr. Mr. Carr), sent a number of excellent cut spikes, including some fine Dendrobium nobile, a superb Cypripedium Rothschildianum, C. Haynaldianum, several fine forms of Odontoglossum crispum, O. × Coradinei, O. luteopurpureum, and a fine O. Pescatorei.

C. L. N. Ingram, Esq., Godalming (gr. Mr. Bond), showed the handsome Lælio-cattleya × Dominiana Sir William Ingram.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), showed Cypripedium × Thyades (superbiens × Chamberlainianum), with a light-green dorsal sepal narrowly lined with purple, undulate greenish white petals much spotted with purple, and the lip rosy-red.

F. A. Rehder, Esq., The Avenue, Gipsy Hill, sent Miltonia flavescens, and Cypripedium × Mrs. Rehder (Argus × Rothschildianum), a fine flower with yellowish ground colour, lined with brown on the dorsal sepal and somewhat tinged with green, and the petals much spotted with dark chocolate.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, showed Dendrobium × crepidato-nobile (nobile ♀ × crepidatum ♂), a pretty hybrid most like the pollen-parent, the flowers white tipped with rose, and bearing a claret-coloured blotch on the lip; also Epidendrum × elegantulum luteum, a very pretty variety with yellow sepals and petals, to which an **Award of Merit was given.**

Messrs. J. McBean & Sons, Cooksbridge, sent Odontoglossnm × excellens McBeanianum, a very fine, well-blotched variety, to which an **Award of Merit was given.**

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a very pretty group, to which a Silver Banksian Medal was given. It contained a number of good forms of Cattleya Mendelii, Phalænopsis Sanderiana, Lælia × Latona, some good examples of Miltonia Roezlii alba, and other **interesting things.**

At the meeting held on May 16th, exhibits were less numerous, doubtless owing to the proximity of the annual Temple Show, but the quality was well maintained, two First-class Certificates and five Awards of Merit being given. The members of the Committee present were :—H. J. Veitch., Esq.,

in the chair, and Messrs. J. O'Brien (hon. sec.), H. Ballantine, H. J. Chapman, J. Colman, S. Courtauld, De B. Crawshay, J. T. Gabriel, T. B. Haywood, E. Hill, F. Mason, H. T. Pitt, H. M. Pollett, F. Sander, A. H. Smee, F. J. Thorne, and W. H. Young.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), staged a small, choice group, to which a Silver Flora Medal was given. Odontoglossum × Coradinei mirabile was exhibited in excellent condition and gained a First-class Certificate, while an Award of Merit went to the Dell variety of O. sceptrum, distinguished by its large and richly coloured flowers. The others were the handsome O. × Andersonianum superbum, a distinct Odontoglossum called O. triumphans Dell variety, in which the lower half of the petals and lip are white and the rest of the flower yellow, blotched and spotted with brown, a very fine inflorescence of Lælio-cattleya × Digbyano-Mossiæ, and the remarkable Dendrobium sanguineum.

J. Coleman, Esq., Gatton Park, Surrey (gr. Mr. King), staged an effective group to which a Silver Banksian Medal was given. It contained a fine specimen of Lælia purpurata in the centre of the group, good forms of Cattleya Mendelii, C. Skinneri, Odontoglossum crispum, O. Hallii, O. cirrhosum, O. luteopurpureum, O. Rossii, and O. cordatum, Lycaste Skinneri alba, Cymbidium × eburneo - Lowianum, Dendrobium atroviolaceum, Miltonia vexillaria, the handsome Epiphronitis × Veitchii, Sophronitis grandiflora, Masdevallia Veitchiana, &c. A large and handsome form of Odontoglossum polyxanthum called Gatton Park variety received an Award of Merit.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent the splendid Phaius × Phœbe (Wallichii Sanderianus ♀ × Humblotii ♂), to which a First-class Certificate was given. The flowers are very large, with pale pink sepals and petals tinged with nankeen-yellow, and the lip broad, yellow at the base, lined with dark red in the centre, and light rose in front with a darker veining.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent a fine spotted form of Odontoglossum crispum, called Raymond Crawshay, to which an Award of Merit was given. The sepals and petals were tinged with purple at the base, and the spots, which were more numerous and somewhat confluent on the sepals, were red, tinted with orange-brown.

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), sent a very large, pure white form of Odontoglossum crispum, called Purity, to which an Award of Merit was given. He also showed the fine Masdevallia Veitchiana grandiflora.

Malcolm S. Cooke, Esq., Kingston Hill (gr. Mr. Buckell), showed a good, spotted form of Odontoglossum crispum with a fine branched spike.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sen

a fine form of Cattleya Mendelii, with a feathered marking near the apex of the petals, and a richly-coloured lip.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), showed Cattleya Walkeriana nobilior with a fine, four-flowered inflorescence.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a superb group, to which a Silver Flora Medal was given. It contained the handsome Lælio-cattleya × Hyeana (L. purpurata ♀ × C. Lawrenceana ♂), L.-c. × Zephyra (L. xanthina ♀ × C. Mendelii ♂), L.-c. × Ascania (L. xanthina ♀ × C. Mossiæ ♂), L.-c. × Pallas, some good forms of Cattleya Mendelii and Mossiæ, C. intermedia, the handsome Lælia × Latona, some good L. purpurata, Epicattleya × radiato-Bowringiana with a four-flowered inflorescence, Epiphronitis × Veitchiana, Epidendrum xanthinum, E. × elegantulum and its var. luteolum, E. × O'Brienianum, the brilliant orange-scarlet Dendrobium subclausum, D. atroviolaceum, good examples of Oncidium phymatochilum with its graceful racemes, O. sarcodes, concolor, and ampliatum, a good series of Odontoglossum crispum forms, several brilliant Masdevallias, Cypripedium Mastersianum, caudatum, × macrochilum giganteum, and others.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, sent Odontoglossum × Andersonianum giganteum, an exceptionally large form, with white ground and many red-brown spots, to which an Award of Merit was given.

THE TEMPLE SHOW.

THE date of the twelfth great annual show of the Royal Horticultural Society in the Inner Temple Gardens was fixed for May 31st and two following days, and, considering the backwardness of the season, it was fortunate that it was not a week earlier. At the moment of writing we are able to say that a magnificent display of Orchids is again brought together, and as the weather promises to be all that could be desired the Show promises to be a great success. The great trade firms are, as usual, well represented, and there are fine groups from Sir Trevor Lawrence, Sir Frederick Wigan, W. A. Gillett, Esq., John Rutherford, Esq., M.P., W. C. Walker, Esq., L. Mond, Esq., W. Thompson, Esq., and M. Jules Hye, the two latter showing chiefly superb Odontoglossums, while single specimens come from several exhibitors. A glance round the exhibits reveals less of novelty than usual, and in a few cases there is evidence of things having been hurried to get them out in time. Cattleya Mendelli, on the other hand, which is sometimes nearly over, is this year staged in quantity and in fine condition. Owing to the lateness of the date and pressure on our space, we regret that a full report must stand over until our next number.

ORCHID PORTRAITS.

CŒLOGYNE DAYANA.—*Amer. Gard.*, March 6, p. 337, with fig.

CYPRIPEDIUM × MACROCHILUM GIGANTEUM (abnormal).—*Gard. Mag.*, May 27, p. 307, with fig.

CYPRIPEDIUM MASTERSIANUM.—*Gard. Chron.*, May 6, pp. 273, 274, fig 101.

CYPRIPEDIUM STONEI PLATYTÆNIUM.—*Gard. Chron.*, May 6, pp. 273, 281, fig. 104.

CYPRIPEDIUM × WILLIAM LLOYD.—*Journ. of Hort.*, May 4, p. 357, fig 81.

DENDROBIUM FIMBRIATUM (peloriate).—*Gard. Chron.*, May 13, p. 305, fig 111.

EPIDENDRUM × ELEGANTULUM LUTEUM.—*Gard. Mag.*, May 13, pp. 276, 277 (with fig.).

ODONTOGLOSSUM × ANDERSONIANUM RAYMOND CRAWSHAY.—*Gard. Mag.*, May 13, p. 276, with fig.

ODONTOGLOSSUM × CORADINEI WEST BANK HOUSE VAR.—*Gard. Chron.*, May 20, p. 315, fig. 116.

ODONTOGLOSSUM CRISPUM ASHWORTHIANUM.—*Gard. Mag.*, May 6, pp. 264, 269, with fig.

ODONTOGLOSSUM CRISPUM PURITY.—*Journ. Hort.*, May 25, p. 430, fig. 94.

ODONTOGLOSSUM CRISPUM RAYMOND CRAWSHAY.—*Journ. Hort.*, May 25, pp. 430, 431, fig. 95.

ODONTOGLOSSUM POLYXANTHUM.—*Sem. Hort.*, May 27, pp. 206, 207, fig. 117.

SACCOLABIUM GUTTATUM.—*Amer. Gard.*, April 29, p. 317, fig. 81.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W.S.B., Dorking. A good form of Odontoglossum × Andersonianum with many small spots on the segments.

G.B., Hamburg. 1, Oncidium micropogon; 2, Odontoglossum Reichenheimii; 3, Cattleya Schrœderæ, but the flower not yet fully developed.

H.A.B., Aspasia lunata.

A. de L., Liège. The Cymbidium Lowianum sent is remarkable for the very light brown of the front of the lip, but it is not C. L. concolor, in which this part is greenish-yellow like the rest of the flower. The Odontoglossum we should refer to O. cirrhosum Klabochorum, and differs from the type in the numerous spots on the sepals and petals.

J.R., Altrincham. A good form of Odontoglossum × Andersonianum. The package has been duly forwarded.

G.S.B., Wilmslow. Cattleya Schrœderæ has more undulate petals, and the rich colour in front of the lip we do not remember to have met with before. We should have referred it to C. Trianæ, but another season may decide the matter.

E.A.O., Mass. We do not yet find the reference to Cattleya × Dijanceana.

Photographs received, with thanks, G.B., E.F.C., A.G.

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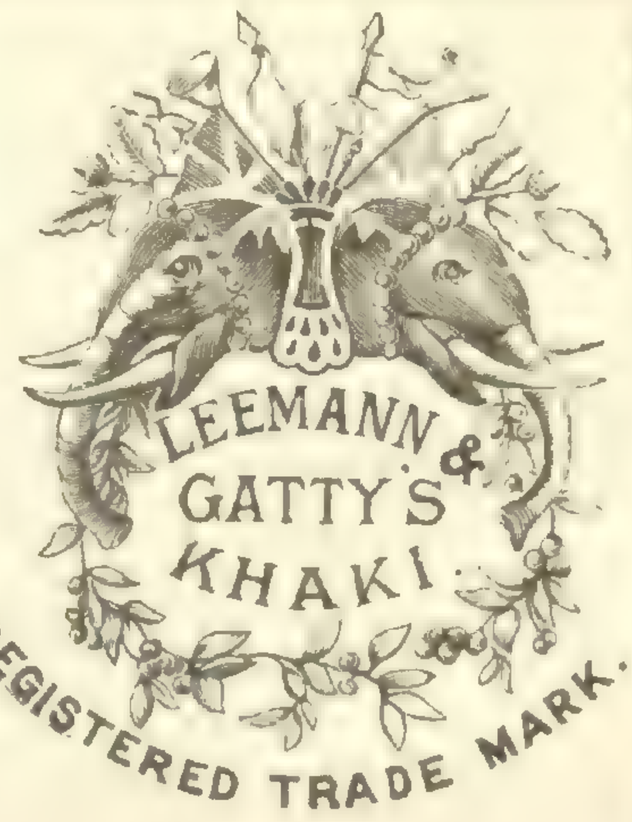

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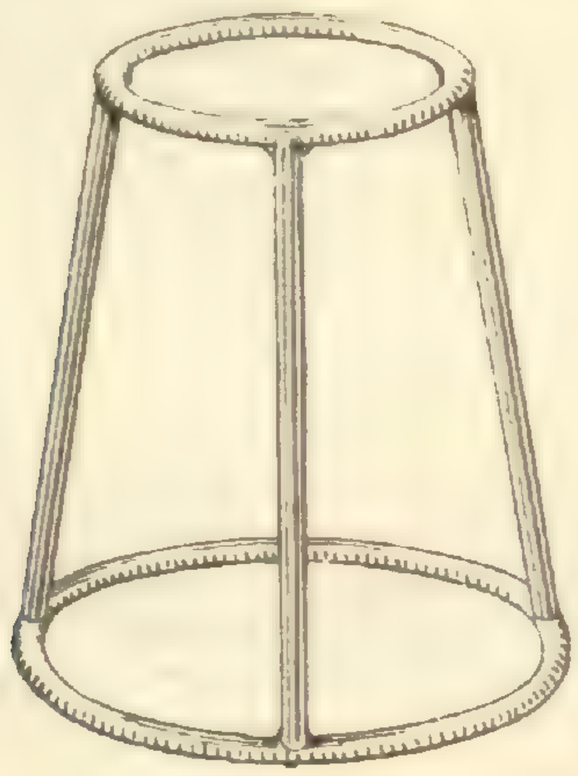

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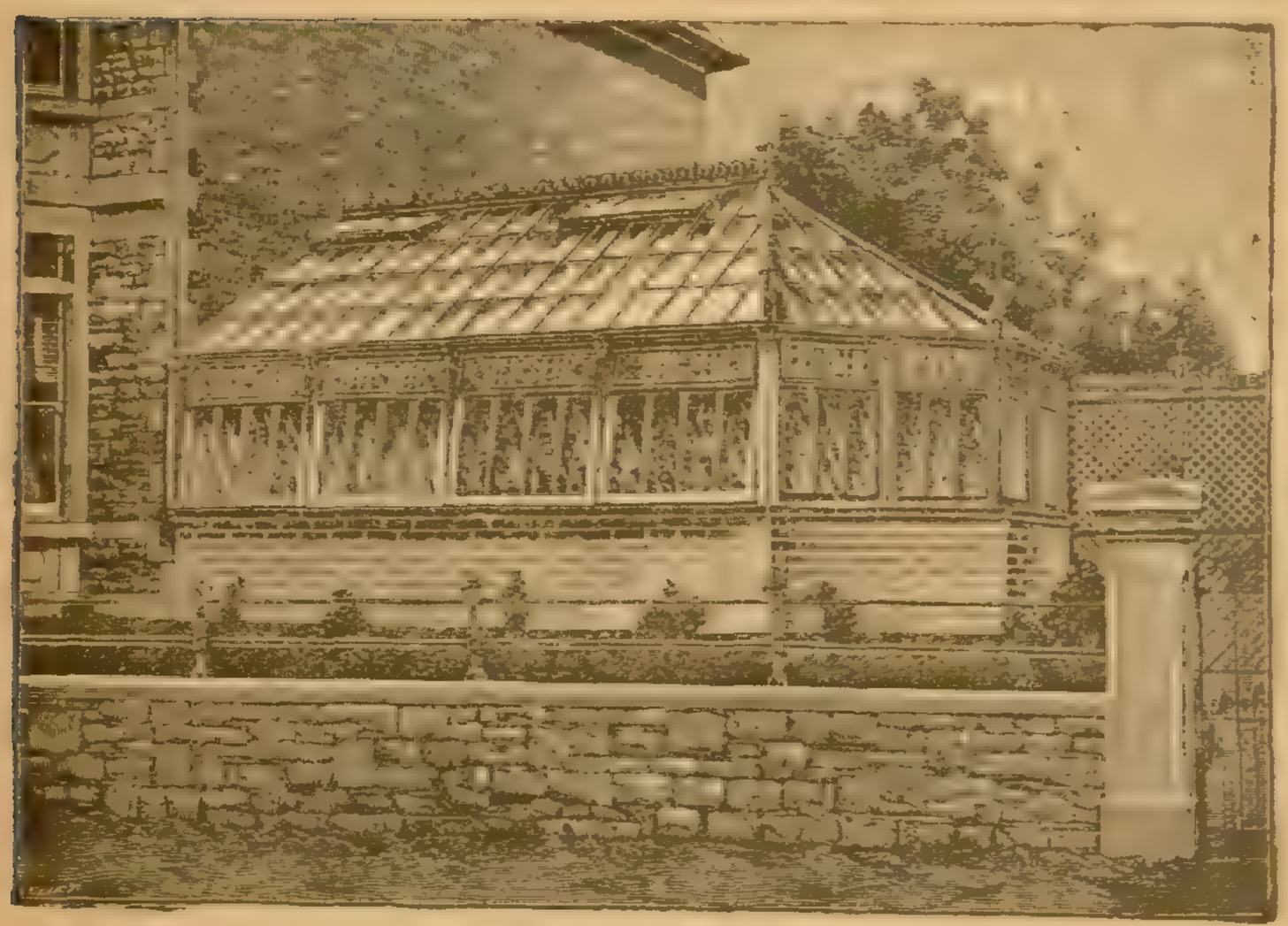

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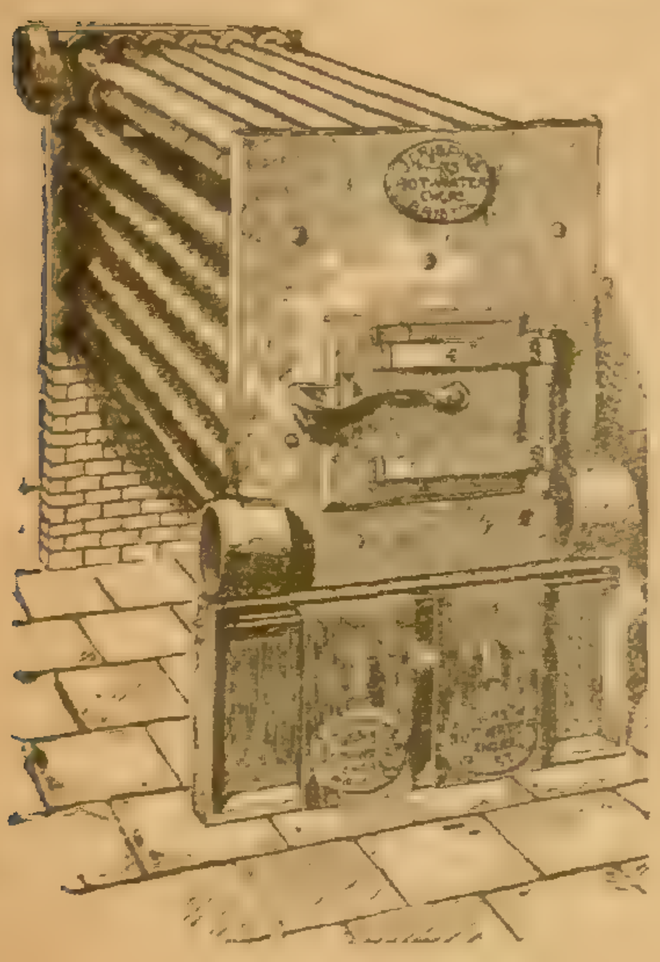

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VOL. VII.] JULY, 1899. [No. 79.

THE

ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *JULY*, 1899. [No. 79.

NOTES.

THE event of the month will be the International Conference on Hybridisation, convened by the Royal Horticultural Society, which will be opened at the Society's Gardens at Chiswick, on Tuesday, July 11th, and continued on the following day at the Society's Rooms, 117 Victoria St., Westminster.

All Plant-growers, whether Amateurs or Nurserymen, are particularly requested to exhibit Hybrid or Cross-bred Plants (whether in bloom or not), with their Parents, on the first day. All Plants should arrive at the Society's Gardens at Chiswick, at or before 11.30 a.m., and may be **removed at 5 p.m.**

New or Rare Plants may also be exhibited for Certificates exactly in the same way as at the ordinary fortnightly meetings at the Drill Hall, **but no ordinary groups will be admitted on this occasion.**

The various Committees will meet at 12 o'clock, noon, to adjudicate upon the exhibits, and the following conditions specially apply.

It is requested that full particulars of the origin and parentage of all the hybrids exhibited, be given on special cards (which will be supplied to exhibitors, and should be applied for beforehand), each plant on a separate **card, so as to facilitate comparison and avoid confusion.**

Awards will be given to meritorious exhibits of Hybrids, and we note eight Veitch Memorial Medals are offered, one of them to the raiser of the best new Orchid intentionally raised by cross-breeding or hybridisation in Great Britain, and never previously exhibited, and another to the best raised abroad, under the same conditions. A Williams Memorial Medal is also offered for the best collection of Hybrid and Cross-bred Plants.

Other particulars were given at page 44 of our February issue. We regret to notice, however, that Mr. Cookson's paper on Hybrid Orchids is omitted from the revised programme, which thus contains no paper specially devoted to Orchids. There is, however, "Experiments in Hybridisation and Cross-breeding," by C. C. Hurst, F.R.H.S., F.L.S., (July 11th), and "Hybridisation viewed from the standpoint of Systematic Botany," by R. Allen Rolfe, A.L.S. (July 12th), so that Orchids will not be unrepresented, while among the exhibits they are likely to take a leading position.

The second meeting of the month will be held at the Drill Hall, James St., Westminster, on July 25th, when the Orchid Committee will meet at 12 o'clock, noon.

The Manchester and North of England Orchid Society will hold two meetings at the Coal Exchange, Manchester, during July, on the 6th and 20th respectively, when the Orchid Committe will meet at the usual hour, 12 o'clock, noon.

A curious flower of Paphiopedilum × Arthurianum has just appeared in the collection of Reginald Young, Esq., Sefton Park, Liverpool, in which the scape is almost completely suppressed. The flower is thus crowded in between the leaves of the growth, and is also out of season, which is probably due to the same cause as led to the arrest of the scape.

Stenorhynchus speciosus is a handsome species of the Spiranthes group, with variegated leaves and crimson flower-spikes, both flowers and bracts being brilliantly coloured. It is terrestrial, and succeeds well in an ordinary stove. An inflorescence has been sent by Messrs. Stanley Mobbs and Ashton, of Southgate.

A very large and richly coloured form of Cattleya Warneri is sent from the collection of Mrs. Hollond, Wonham, Bampton, Devon, by Mr. Stacey. It measures $9\frac{3}{4}$ inches across the expanded petals, which, together with the sepals, are bright rose-purple in colour, while the perfectly formed lip is beautifully undulate, and of the most brilliant amethyst in front. The spike bears four flowers.

A flower of the large and handsome Odontoglossum × Coradinei Crawshayanum, to which an Award of Merit was given by the Royal Horticultural Society, on June 13th last, is sent from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks. It is one of a raceme of fourteen, and measures $3\frac{1}{2}$ inches from tip to tip of the petals. The shape is good, and the blotches very large and richly coloured.

A good form of O. × Denisonæ is also sent, which bloomed out of an 1898 importation of O. crispum, and comes nearer to the original form (*Fl. Mag.*, n. s., 1872, t. 26) than any we have met with, both in shape and colour. It is nearly white, with three or four small light red blotches on the sepals. The shape of the sepals and lip, and particularly of the crest, leave no doubt of its origin. A good flower of O. nævium is also sent.

A very curious double growth has appeared on a plant of Lælia purpurata in the collection of L. C. R. Thring, Esq., of Dunstable. When the young growth was about four inches high, a second growth started away from the first and soon caught it up, the two growing away together and ultimately flowering, the first bearing a raceme of four and the second one of three flowers, the latter, curiously enough, opening three or four days before the other. A photograph sent shows this curious growth, which we do not remember to have noticed before.

A very pretty form of Cattleya Mossiæ is also sent, in which the crimson veining is much reduced in front of the lip's disc. The combination of colour is very delicate and pretty, but whether it agrees with any of the numerous named forms we are not sure.

The fine specimen of Aërides odoratum in the collection of R. le Doux, Esq., which was figured at page 273 of our last volume, is again in bloom, carrying forty spikes of flowers. Mr. Archer thinks that it looks better than last year, owing to the spikes being more evenly distributed over the plant. It has evidently taken kindly to its new quarters, and we see no reason why it should not continue to do well under suitable treatment.

THE HYBRIDIST.

Lælio-cattleya × Martinetii var flavescens.

M. Ch. Maron, of Brunoy, France, sends us two flowers of a new seedling from Cattleya Mossiæ ♀ and Lælia tenebrosa ♂, which differ from the one recently exhibited at Paris in the beautiful buff colour of the sepals and petals, and suggests that a varietal name should be given in accordance with this character. We accordingly suggest flavescens, which signifies to grow or become yellow. The original we have not seen, but the present one is very beautiful, and, except in the colour of the sepals and petals, may be briefly compared with L.-c. × Gottoiana, the difference of course arising from C. Warneri being replaced by C. Mossiæ in the parentage. The lip is fairly intermediate in shape, beautifully undulate at the margin, and purple in colour. It is a beautiful addition to the group, in the hybridising of which M. Maron has been remarkably successful.

DIES ORCHIDIANÆ.

A CURIOUS point has arisen respecting the beautiful Lælia purpurata Annie Louise, for which Captain Law-Schofield received a First-class certificate at the recent Temple Show. Mr. Statter remarks:—"I believe it was explained by Mr. Cypher at the Temple Show, who was the original owner, that the certificated plant of L. purpurata Annie Louise was the same variety as that shown by me as L. purpurata Statteriana. The question arises, what is this variety in future to be styled, as there are still two more portions of the original plant, one with Mr. Schofield, the exhibitor of the certificated plant referred to, and the other with Mrs. Briggs-Bury, at Accrington? I hold that Statteriana is the right name, because I exhibited my plant at Manchester Botanical Gardens in 1897 and 1898, and on a later date under that name; and I received a First-class certificate at Manchester under that name, L. p. Statteriana."—*Gard. Chron.*, June 17, p. 389.

The Editor replies:—We fear that there are many similar cases, although examination of the two plants referred to at the show failed to prove conclusively that they were the same, Mr. Statter's flower being smaller and not so finely developed as Mr. Schofield's. At the show, another complication arose from the suggestion that L. p. Mrs. R. I. Measures, an inflorescence of which was present for comparison, was also the same as L. p. Annie Louise, and certainly its well-developed flowers seemed nearer than those of Mr. Statter's plant. All three might have been taken from the same stock (though Mr. Measures' plant was taken from an independent specimen), and cultivation has made the difference.

"If purchasers would honestly retain the names under which plants were bought, and vendors would faithfully sell all the parts of the same specimen under the same name given, before the plants were distributed, such confusion would be materially diminished. We fear that complications of the kind are more often intentional than accidental. In the face of the present difficulty, it will be better to adhere to the name given at the Temple Show."—*l.c.*

Another contribution to the question appears in the same issue, in the report of the Manchester and North of England Orchid Society:—Thomas Statter, Esq., Stand Hall, Whitefield, exhibited a fine form of Lælia purpurata, named Statteriana; but an objection was entered against this name, as it is said to be precisely the same as one exhibited in London under the name of L. p. Annie Louise. The plant was thereupon given a First-class certificate under the latter name.—*l.c.*, p. 403.

After this, who will venture to ask, what's in a name? However, it occurred to me to look up the question of priority, but, unfortunately, I failed to find a record of the name L. p. Statteriana, though I traced L. p. Annie Louise back to 1897. It was exhibited before the Manchester Orchid Society on October 21st of that year, and received an Award of Merit (*O. R.*, v., p. 346); also by Mrs. Briggs-Bury, on July 14th, 1898, and received a similar award (*O. R.*, vi., p. 253), so that I do not quite see why the Society should have used the Temple exhibit in justification of the change of name. L. p. Mrs. R. I. Measures, it would appear must relinquish the claim to priority, for it received an Award of Merit from the R.H.S. on October 26th, 1897 (*O. R.*, v., p. 350). Five days too late! But I am quite willing to accept its identity, and even to consider it as part of the same identical plant, at all events until it is proved to the contrary.

Whether the matter will rest here remains to be proved, but I have seen a remarkably similar form before, and should not be at all surprised to find that it is practically undistinguishable from something that appeared long ago. The question of priority if applied to varieties will land us in some nice difficulties. Will anyone pretend that all the multitudinous varieties of a few of our popular garden Orchids are distinct? Take Cattleya Mossiæ, for example, where we have more distinct names than varieties. Some of the principal variations occur in nearly every importation, and one might almost say get a new name every time. Scarcely a meeting is held now-a-days without various "new" varieties appearing, and if those who name them so freely make any attempt to ascertain whether they have been named before they are singularly unfortunate. I repeatedly meet old friends under new names, and some have so many aliases that I have forgotten which is the original name. Some of our reporters heroically try to put them on record—I mean the names—but how to distinguish them seems a perfectly hopeless task. A rash individual, some time ago, proposed that no one should be allowed to name a new variety without proving its distinctness. I say rash, but all the same I wish his ideas could be carried out.

ARGUS.

EPIDENDRUM CONFUSUM.

THIS is the Epidendrum fragrans var. megalanthum of Lindley (Fol. Orch., Epidend., p. 39) a plant originally sent from Guatemala, by Mr. Skinner, to the Horticultural Society, in whose garden it flowered in July, 1849. Lindley remarked of it—"remarkable for the gigantic dimensions, which it retains in cultivation; the flowers are full four inches in diameter, and its pseudobulbs and leaves, taken together, are sometimes eighteen inches long." It has since appeared on several occasions, always with the same

characters, except that the flowers are occasionally rather smaller than above described, and evidently represents a quite distinct species. Besides the characters just mentioned, it should be pointed out that the present one has diphyllous pseudobulbs, while in E. fragrans they are generally, if not invariably, monophyllous. The raceme of the former is also very short and few-flowered, and the elongated character of the sepals and petals is just as marked as is that of the pseudobulbs and leaves. The lip is relatively much larger and less acuminate. The flowers are straw-coloured, with numerous radiating red-purple lines on the lip. On the whole it seems nearer to E. ionophlebium, Rchb. f., from Costa Rica, than to E. fragrans. It has now flowered at the Royal Botanic Garden, Edinburgh.

R. A. ROLFE.

OBITUARY.

WE regret to hear of the death of Mr. James Anderson, which took place at Glasgow on June 16th, after an illness of several months duration. The deceased, who had attained the age of sixty-seven, was well known in horticultural circles, and was for many years gardener to T. Dawson, Esq., of Meadow Bank, near Glasgow, the possessor of one of the finest Orchid collections of the period. After Mr. Dawson's death, Mr. Anderson established himself near Glasgow as a landscape gardener and horticultural expert, but soon removed his business to the neighbourhood of Manchester. He was also employed on the Epping Forest Commission. As a contributor to the Press, he was also well known, as for many years he acted as a correspondent of the *Gardeners' Chronicle*, and brought out a work entitled *The Practical Gardener*, besides acting as Editor to the *Northern Gardener* during the short period of its existence. Mr. Anderson was a very successful cultivator of Orchids, for which he gained numerous awards. There is a legend that he gained the Lindley Medal, an award instituted by the R.H.S. in commemoration of Dr. Lindley, and to be given preferentially for excellence in cultivation. This, however, is incorrect, as Mr. Anderson himself has stated, though the two examples of Odontoglossum grande sent up from Meadow Bank quite thirty years ago are said to have been such as had never been seen before, and, according to Mr. Barron, no such specimens have been submitted in London since. Each bore a branched panicle, one with fifteen and the other with sixteen flowers, of extraordinary size, substance, and colour. The history of the question may be found in our fifth volume (pp. 354, 355). Mr. Anderson retained his interest in Orchids to the last, and was one of the founders of the Manchester and North of England Orchid Society, and a member of the Committee. His name will be kept in perpetual remembrance by the familiar Odontoglossum × Andersonianum, which was dedicated to him by Reichenbach in 1868.

ONCIDIUM AMPLIATUM CITRINUM.

THE typical form of Oncidium ampliatum, like that of many other species, has some brown markings at the base of the petals and around the crest of the lip, but now a variety has appeared with Messrs. Hugh Low & Co., from which these are entirely absent, leaving the flower clear citron yellow, which gives it a very distinct appearance. In all other respects it agrees with the well-known type. It was exhibited at the recent Temple Show, and again at the Drill Hall, on June 13th. The absence of the characteristic markings is a rare occurrence with many Orchids, and we do not remember to have met with in it before in this species.

R. A. R.

THE STAND HALL COLLECTION.

WE have again had the pleasure of inspecting this interesting collection, of which an account was given in our second volume (pp. 291-293), and now offer a few supplementary notes. We had often wondered what had become of the remarkable seedlings derived from Epidendrum × O'Brienianum crossed with the pollen of Dendrobium crystallinum, and were gratified to find some of them in flower on this occasion, but, alas! they are practically reproductions of the mother plant, not quite identical with it, perhaps, and varying slightly between themselves, but without any recognizable trace of the influence of the pollen parent. This adds another to the series of seemingly inexplicable facts in connection with the hybridization of Orchids, and we should like to see the experiment carefully repeated, or varied by using pollen from some other Dendrobium, the reverse cross being also tried. We may add that some of the plants were thrown away after the flowers appeared.

Dendrobiums generally are extremely well cultivated here, and a fine lot of D. Phalænopsis in one house possess an amount of vigour seldom met with. The house is a lean-to, with a south aspect, with suitable provisions for shading, but the top ventilators are scarcely ever opened, to which Mr. Statter attributes much of his success. The plants are grown in pot-shaped baskets, suspended from the roof, and sparingly watered, but the air is kept as moist as possible by damping down. The compost used is fibrous peat only. We noticed a lot of healthy cucumber plants festooned at the back of the house, which is next to a vinery, and we have no doubt that the manurial elements employed in their culture benefit the Dendrobiums, through the ammonia escaping into the air—in fact, it was perceptible on entering the house. Under these conditions, the root-action is superb, the roots hanging down below the baskets in profusion, while the pseudobulb

are equally vigorous. The magnificent group shown at Manchester last year shows the success of this treatment, and it may be mentioned that one pseudobulb carried three long racemes of twenty-six and twenty-eight flowers. We also noticed some plants of the recently introduced D. spectabile growing vigorously, and D. atroviolaceum in flower. A few Cypripedes are also cultivated here very successfully, among them one called Madame Jules Hye (tonsum × Spicerianum) looking very healthy.

A house is almost devoted to Cattleya labiata, intermediate treatment being given, and Mr. Johnson remarked that during January and February not a drop of water was given to the plants. In bud here, we noticed a curious little plant, apparently an Odontoglossum, which was picked out of an imported clump of C. labiata. This we should like to know more about. On a shelf we noticed four plants of the remarkable violet-blue Dendrobium Victoria-Regina in flower.

Cattleyas and Cypripedes are represented by many choice forms, but none of the former were yet out. Mr. Statter, however, pointed out the original plant of C. × Hardyana in excellent condition, the roots hanging down below the basket in masses; also C. × H. Statteriana and Countess of Derby, together with several plants picked out of an importation of C. Dowiana aurea, which are thought to belong to C. × Hardyana, and will be watched with interest till they flower. There is also a nice batch of seedlings raised from C. Warscewiczii ♀ and C. Dowiana aurea ♂ respecting which no uncertainty need be felt; and some good seedlings from C. granulosa Schofieldiana ♀ and C. labiata ♂, which ought to prove C. × Imperator. Other interesting seedlings noted were Cattleya Bowringiana × Hardyana Massaiana, C. Bowringiana × L. tenebrosa, and L. tenebrosa crossed with C. × Hardyana, C. Dowiana aurea, and C. Mossiæ, all of them promising well. Lælio-cattleya × highburiensis was in flower. A supposed pure white form of Lælia purpurata is being watched with interest, four plants having been obtained from Messrs. Cowan, which are growing well. Plenty of moisture in the air and comparatively little at the root, are points on which Mr. Johnson lays great stress, and the plants are remarkably healthy.

We have little room left for the Cypripedes, which are an equally fine lot, but first we may mention the supposed hybrid between Sedeni and Stonei, which has now flowered, though imperfectly, and showing very little, if any, of the influence of the latter parent. The flowers may come better next time, and we should like to see them. Several interesting things were in flower and bud, among them the beautiful albinos, callosum Sanderæ and Lawrenceanum Hyeanum. A seedling said to have been derived from bellatulum crossed with Fairrieanum pollen is, of course, a plant of great promise, and it would be easy to enumerate many others, did space permit.

Mr. Johnson seems to be as successful with this group as with others under his charge, and indeed the collection generally is in excellent condition.

Mr. Statter has had many of his choicest plants painted, mostly by Macfarlane, and thus we were able to renew an acquaintance with some of the gems of the collection not now in flower, which increased the interest of the visit.

POISONERS AND THIEVES IN THE WILSON ORCHID COLLECTION.

UNDER this title appears the following note in the issue of *American Gardening* for May 20th last (p. 370):—"The Orchid collection of Mrs. George B. Wilson, which is contained in her well-kept greenhouses on Forty-third and Walnut Streets, Philadelphia, Pa., has fast been rising into the front ranks of fame. The rich collection of the late Erastus Corning, of Albany, N.Y., now rests in these houses, and the present owner, who is a keen connoisseur, is continually enriching an already valuable collection by the purchase of rarities. Though not much spoken of as yet outside Orchid growing circles, the Wilson collection is one of the very notable in America to-day. The owner has the sympathy of all true horticulturists in the very cruel and malicious attacks that have been made upon her possessions of late.

"On Saturday, May 6th, two visitors came to inspect the Orchids, and spent an unusually long time among the Lælias. One of the assistant gardeners was with the strangers a short time, and he says the men talked like experts. That same night the head gardener came to Mrs. Wilson saying that something was the matter with the superb piece of a very fine form of Lælia elegans alba which had come in the Corning collection. It had thirty-five bulbs, and was just coming into flower. It appeared, however, to be drooping and sickly. Everything was done to save it, but it shrivelled and died. It is doubtful if another such piece can be procured to fill the blank. The leaves of the dead plant were sent to a chemist, who found that in the base of the leaves there was a strong preparation of some alkali, probably chlorate of potash, which had evidently been poured on in malicious intent.

"What could have inspired the perpetration of such an outrage is quite unknown, and there is no definite information as to who are the criminals concerned. This is the second time that the Wilson collection has been injured. Only very recently, Mrs. Wilson informs us, she lost by theft two plants of the rare Lælia majalis alba. It is to be hoped that the guilty parties will be caught and duly punished."

VANILLA WIGHTIANA.

THIS very rare species has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, apparently for the first time in cultivation. It belongs to the leafless section of the genus, and is a native of the Deccan Peninsula, South India, but has previously only been known by the original specimens, collected by Wight, and named by Lindley, over sixty years ago (*Wight Cat.*, p. 123). No description was published, and Lindley afterwards reduced it, somewhat doubtfully, to the Malayan V. aphylla, Blume (*Gen. and Sp. Orch.*, p. 436). The flowers are 1¼ inches long, and the sepals and petals are linear-oblong, slightly spreading, and pale yellow, tipped with green. The lip is obscurely 3-lobed, with a broad line of slightly retrorse hairs, about a line long, from the apex down to the crest, which is similar except that the hairs are rather more retrorse. The hairs of the crest and throat are red-purple, but those near the apex are pale yellow, like the rest of the lip. The flowers are fragrant, something like heliotrope. Wight afterwards figured the species (*Ic. Pl. Ind. or.*, V, t. 931), but the figure is very inaccurate, as the imperfect type specimens show. Twelve leafless species of the genus are known, five being Asiatic, four African and Mascarene, and three West Indian, but only three are certainly known in cultivation, namely, V. Phalænopsis, Rchb. f. (*Fl. des Serres*, t. 1769-70), a native of the Seychelle Islands; V. Walkeriæ, Wight (*Ic. Pl. Ind. or.*, v. t. 932), a native of Ceylon; and the present one. This indeed was thought to be V. Walkeriæ until it bloomed, but that species has white flowers, of nearly twice the size, with two slightly pubescent lines on the lower part of the lip. A more complete account of these plants may be found in my monograph of the genus (*Journ. Linn. Soc.*, xxxii., pp. 439-478).

R. A. ROLFE.

VANDA ROXBURGHII AT HOME.

AMONGST the numerous species of Orchids belonging to our Indian flora, very few are so widely distributed as the old Vanda Roxburghii. It is mostly found in the plains, and it is one of our commonest species in Lower Bengal, chiefly in the Calcutta district. It is also found up to Behar, Gugerat, and Concan, and in a southern direction down to Ceylon, where we noticed many good specimens not very far from the cinnamon gardens, a well-known place for visitors to Colombo. It is found under various conditions, sometimes strongly fastened to the branches of trees, sometimes simply hanging down. We have several times noticed splendid specimens thriving wonderfully well on the branches of some tall Ficus religiosa, F. bengalensis, and on the well-known Indian mango tree. Its

long, thick, and smooth roots are sometimes from three to four feet long. The plants differ much in habit, and probably also in constitution, and this constitutional difference may have some effect on the establishment of newly imported plants in European collections. The flowers vary a great deal in colour, some being much darker than others, and it would be easy to find half-a-dozen different varieties; indeed, we have heard of a certain Orchid grower who is supposed to possess about twenty, but the same fact may be observed in other species, as V. tricolor and suavis, and again among other Orchids, chiefly Cattleyas, where sometimes scarcely two plants are alike. Vanda Roxburghii in a wild state seems to be a very free bloomer, and we have noticed on some of our trees where they are thickly grouped, a constant succession of flowers.

This species is called by natives of Lower Bengal, Rasna Nai, and is greatly esteemed by native doctors and physicians, who attribute to its roots some very valuable medicinal properties. They are believed to be very efficacious, when prepared, against rheumatism, dropsy, asthma, fever, scorpion's bite, and similar disorders, as well as several diseases of the nervous system. The roots are somewhat fragrant and bitter, and form one of the most appreciated elements entering into the composition of several medicated oils, which are all invariably used as an external remedy. In other parts of the Empire the leaves are also highly appreciated, chiefly in Chutra, Nagpur, where they are pounded and made into a kind of paste which is often applied to the body against fever.

Calcutta. A. GRIESSEN.

MASDEVALLIA RACEMOSA.

A LARGE plant of Masdevallia racemosa, which I have had in a small Cool house since December, 1892, begun to flower on July 31st, 1898, and has continued flowering on the old spikes, the flowers as they come in succession, keeping at full size and bright colour, until to-day, June 17th, 1899, when I cut off the spikes to relieve the plant. In previous years I did not allow the spikes to remain on so long, as I doubted whether the plant might not flower itself to death, but I should be much obliged if you would favour the readers of the *Orchid Review* with your opinion as to whether Masdevallia racemosa is naturally a perpetual flowerer.

C. B. LUCIE SMITH.

The Acacias, Worthing.

[The flowers of Masdevallia racemosa are invariably produced in succession over a considerable period, but whether in the wild state this period extends throughout the entire year, as the present note would suggest, is perhaps not definitely recorded. Lehmann states that the number of flowers open

at once on the same raceme is seldom more than two, and never exceeds four, though the old pedicels sometimes number as many as eighteen. The idea that all the flowers were expanded together seems to have originated in the exhibition at the Sale Rooms of some dried specimens in which a flower had been ingeniously strapped down opposite every one of the old pedicels by the enterprising (?) collector. Unfortunately, one of these misleading specimens was used as an illustration (*Veitch Man. Orch.*, *v.*, *p.* 58) and thus serves, though unintentionally, to perpetuate the error. It would be interesting to know how many flowers were produced by the raceme cut off at the end of 10½ months, which might give a clue to the age of those producing eighteen flowers.—ED.]

IS VANDA TERES A GOOD SEED BEARER?

I HAVE recently made a series of experiments to ascertain the value of Vanda teres as a seed bearer. During April last I made 26 successive crosses between Vanda teres and several other plants, as Renanthera coccinea, Stauropsis fasciata, and various Vandas, etc., but while making Vanda teres the seed parent my attempts were invariably unsatisfactory. At first I thought that it might be due to some cause unknown to me, and therefore I attempted to cross it by itself, which proved successful. Every one of my crosses having also been done the reverse way and having proved successful, I came to the conclusion that V. teres must be a rather delicate species to be selected as seed parent. It ought to be mentioned that all our plants are well established and were not touched until I gave up my experiment. We have a few pods on it, but all are the result of self-fertilization. The crosses, as Renanthera coccinea, were tried eight times in succession, and all proved failures, but the reverse crosses took with the utmost satisfaction. It is not my first experience with the subject, having experienced the same failure at Kew during 1897, while I was in charge of the collection. I should be glad if some of our friends of the *Review* can throw a little light on the subject.

Royal Botanical Gardens, Calcutta. A. E. P. GRIESSEN.

[The only hybrid from V. teres which we know of is V. × Miss Joaquim (*O.R.*, i. p. 245), which was raised at Singapore by the lady whose name it bears, but it is not stated whether V. teres or V. Hookeriana was the seed parent, and it would be interesting to have this point cleared up. If other experiments have been made we shall be glad to hear of them, as the case seems to afford a parallel case to that of Dendrobium Wardianum. Unsuccessful experiments are often not recorded, but cases like the present are interesting, and we should like to have further details.—ED.]

FREAKS AMONG ORCHIDS.

A plant of Odontoglossum crispum in the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, has produced a raceme in which every flower is said to have had three stamens, and one of them as many as four. An illustration in the *Gardener's Chronicle* (June 24th, p. 413, fig. 125) shows that the two column-wings,—which are well known to be staminodial in origin—have reverted to normal stamens. What the fourth stamen may have been is not mentioned, but the writer of the note mentions having "had the good fortune before now to see all six stamens in Odontoglossum crispum."

A still more curious flower has appeared in the collection of J. Lehmann, Esq., West Bank House, Heaton Mersey. It had the appearance of being double, owing to the column having broken up into petaloid bodies, on which were several anther-like bodies in an immature state. The flower, however, was cut at a very early stage, and it would have been very interesting if fully developed. It would be interesting to know if the flowers are similar next season.

A flower of O. Reichenheimii, from the collection of E. F. Clark, Esq., Teignmouth, has one additional anther, which replaces one of the column-wings, while the other is in the normal condition. The pollen masses are below the normal size, and there is an additional gland, but no connecting stipes. One or two other flowers on the panicle are said to have been similarly abnormal.

A flower of Phragmipedilum × grande, from the same collection, is curiously modified in shape, the lip being only represented by one of its side lobes, to which the corresponding petal is united throughout its length, and strongly undulate on one side, owing to the effort made to elongate itself.

A remarkable inflorescence of Habenaria chlorantha has been collected by Mr. W. Hoskyns-Abrahall, Copthorne, Surrey, in which eleven out of thirteen flowers have an additional anther. An examination shows that it belongs to the median stamen of the inner whorl, which is usually the most difficult to trace in a normal flower. The remaining parts (even the staminodes) are present precisely as in the normal flower, except that in three cases the dorsal sepal is partially divided. The column is so little modified that the normal anther cells occupy their usual position, the two additional cells being adnate to the rostellum. In four flowers they are small, and apparently contain no pollen; five others have one cell of the normal size and shape, the other being smaller, but in several cases containing a few pollen grains; while the two remaining flowers have the cells and pollinia of normal size. One of these has the ovary untwisted

and the lip consequently uppermost. The additional pollinia that have reached the normal size have the usual candicle, which is developed from the pollen, but not the gland, which is of rostellar origin, and this is just what might have been expected. The displacement of parts is very slight, but the additional anther cells vary slightly in position, those which are least developed being situated at the apex of the rostellum. It is a very interesting and instructive example.

R. A. R.

ORCHID FLOWERS OPENING IMPERFECTLY.

FLOWERS of certain Orchids are occasionally met with which for some reason fail to open properly. A curious example has been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, namely, two flowers of Paphiopedilum superbiens, showing decay at the base of the peduncle, which prevents them from opening perfectly and attaining their normal dimensions. There is no trace of deformity, and we fail to detect the cause of the mischief. The same thing is said to have occurred for several years, and the decay is said to appear when the flowers reach the same stage, previous to which they have seemed perfectly healthy. The plants are grown in a house devoted entirely to species and hybrids of this group, which do very well on the whole. They are potted in good peat and sphagnum, with plenty of drainage, and the summer treatment varies from 65° at night, to 70° by day. They have, however, been tried in several houses, but with no better results. It looks like a case of constitutional weakness, which however is difficult to account for, because all the plants in cultivation are said to be sub-divisions of one or two original plants. It would be interesting to know if Mr. Wrigley has other plants of this species, and if so whether they behave differently. We should be glad to hear if anyone else has had a similar experience with this or any other species, and also of any likely means of remedying the evil.

Flowers from a plant of Cattleya Mossiæ, sent by Mr. Young, gardener to J. W. Potter, Esq., of Croydon, present a different kind of deformity. After opening, the sepals and petals remain in a partially crumpled condition, though they are large in size and well coloured. Those sent are said to have been in this condition for a fortnight, and the same thing occurred last season. The pseudobulbs are also said to have a slight deformity, which would suggest that it may be a constitutional peculiarity, and thus difficult to cure. We should try it for another season, growing it as strongly as possible, but if it does not then improve, and others succeed under the same treatment, we should despair of a remedy.

ORCHIDS IN SEASON.

A SERIES of the more striking Orchids of the season is sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell), and their splendid condition shows how well their culture is understood. A flower of Cattleya Mendelii represents one of the brightest forms of this species which we have seen. The sepals and petals are of a beautiful shade of rose-pink, and the front lobe of the lip brilliant amethyst, and very undulate, the colour extending round the margins of the side lobes up to and beyond where they meet. A zone of colour also extends across the lip, just above the apex of the column, and between this and the coloured margin is a large white blotch on either side of the disc, giving a very charming effect. A lighter, fairly typical form is equally remarkable for its vigorous growth. It was imported in February, 1898, and had two leads, each of which made two succeeding bulbs. In addition to this it made two back growths, and all six bulbs are now flowering, with an aggregate of seventeen flowers, which on so small a plant makes a grand sight. One of the back growths produced a two-flowered raceme, the other five having three each. This we should think almost constitutes a record of the kind.

A flower of Cattleya Warscewiczii is a magnificent example of what, seen at its best, is the grandest of all Cattleyas. The petals are slightly over 4-inches long by $2\frac{3}{4}$-inches broad, and the front lobe of the lip attains the same breadth. The sepals and petals are bright rose-pink, the front lobe of the lip brilliant amethyst-crimson, and the side lobes bright rose, about intermediate between the two. The blotches are yellow shading to white at the margin. It is not the largest flower we have seen, but for shape, breadth of segments, and colour, it is superb.

Four large and beautiful forms of Cattleya Mossiæ show this polymorphic Cattleya at its best, one of them being much brighter in colour than the others. Which of the named varieties they most resemble we cannot say, for they are so numerous and so scattered that we have lost trace of them.

Other flowers enclosed are Lælia tenebrosa and two good forms of L. purpurata, an unspotted form of Cattleya × intricata—the natural hybrid between C. intermedia and C. Leopoldi—together with good flowers of Oncidium macranthum and the rare O. chrysodipterum, the whole forming a very striking group.

Two beautiful forms of Cattleya Mendelii sent from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, by Mr. Young, are albescens, which received an Award of Merit from the Royal Horticultural Society on June 13th last, and another very similar form, both being nearly white, though with a slight tinge of palest blush.

A charming form of C. Mendelii comes from the collection of R. G. Thwaites, Esq., of Streatham, having blush pink sepals and petals, pure white side lobes to the lip, and the front lobe brilliant amethyst. It is perfect in shape, and the colouring excellent. A light form of C. Mossiæ, having the front lobe of the lip nearly white except along the centre, where a little light purple marbling is retained, may be referred to the variety delicata. A remarkable form of Odontoglossum crispum with a nearly square flat lip an inch broad may be called var. platychilum. The sepals and petals are broad and round, and the colour blush white, and there are about three small brown blotches in front of the lip's crest.

Among other flowers sent may be mentioned Lælio-cattleya × Schilleriana in excellent condition, and a good dark form of Paphiopedilum Boxallii, from the collection of E. F. Clark, Esq., of Teignmouth, and two flowers of P. exul from Isaac Carr, Esq., of Twerton-on-Avon.

CURIOUS CROSSES.

THE mention of seedlings obtained from crossing Lælia harpophylla with the pollen of Paphiopedilum villosum, and also from the reverse cross will, of course, be met with a smile of incredulity, which the raiser evidently anticipated when he remarked "Don't say anything about it: I don't want to be laughed at." The facts, however, had better come out, and we will only identify the raiser by saying that he is an expert hybridist. One day, feeling Pickwickian, and doubtless ruminating on some of the curious facts which have been recorded, he decided on making some really rash experiment, and seeing nothing more unpromising in flower he made both the cross above named, and the reverse cross, using the viscid matter from the rostellum of the Lælia to make the pollen adhere to the dry stigma of the Paphiopedilum. Events soon showed that both crosses had taken, and in due time the capsules matured, and the seed, appearing good, was sown. Some of it germinated and the seedlings are now about half grown. We have seen and examined them, and in each case they resemble the mother plant. It is, of course, easy to suggest that in some way self-fertilisation has taken place; but with a knowledge of the raiser's skill and methods, and in view of the repeated experiments between Zygopetalum and Odontoglossum we look for another explanation. If not crossed the flowers shrivel and fall. In the case of Zygopetalum crossed with Odontoglossum, prepotency of the former has been suggested as the cause, hence the desirability of obtaining the reverse cross. Here is something for the Hybridisation Conference to discuss; or at all events for our Hybridists to follow up on a large scale, and explain if possible.

SOPHROCATTLEYA × HARDYANA.

THE annexed illustration represents a most brilliant little hybrid from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey. It was obtained by crossing Sophronitis grandiflora ♀ and Cattleya Aclandiæ ♂, and obtained an Award of Merit from the Royal Horticultural Society on May 10th, 1898, under the name of Sophrocattleya × George Hardy (*Orch. Rev.*, 1898, pp. 185, 270), a name which we have latinised above, according to the rule for naming primary hybrids. It combines the characters of its parents, though the flower in shape and colour most resembles the Sophronitis, the lip and column, however, being considerably enlarged and

FIG. 13. SOPHROCATTLEYA × HARDYANA.

modified in shape. The habit is dwarf, as might naturally be expected, and the flowers very large for the size of the plant, so that one can easily imagine the effect which a strong plant in flower would produce. It also appears to have a very good constitution. The photograph, for which we are indebted to Mr. Hardy, gives an excellent idea of the shape of the flower, but the colour appears too dark, a fault due to the well-known fact that orange and scarlet fail to come out in their true proportions on the photographic plate. Since the above was written a flower from another

plant has been sent by Mr. Stafford, Mr. Hardy's gardener, which shows more of the C. Aclandiæ character. It is distinctly lighter in colour, and both the sepals and petals bear numerous small purple spots, mostly near the apex. The lip is much more distinctly three-lobed, the side lobes larger and more erect, yellow veined with purple at the base, the front lobe purple, and the disc bright yellow.

CATTLEYA NOBILIOR.

THIS handsome Cattleya was described by Reichenbach in 1883 (*Ill. Hort.*, 1883, t. 485; *Gard. Chron.*, 1883, xix., p. 728, fig. 120), from plants introduced by the *Compagnie Continentale d'Horticulture*, but has hitherto remained very rare in cultivation. A good plant has just flowered with Mr. J. Allgrove, florist, of Chiswick, who obtained it some time ago as a supposed rare species, but unnamed. It produced two racemes of three flowers each. It is very near to C. Walkeriana, *Lindl.*, and also produces its flowers from a short, special shoot, which develops into an ordinary growth some time after the flowers have withered. It is, however, of more vigorous growth, and produces larger flowers, with the side lobes of the lip somewhat exceeding the column. The flowers are light rose-purple in colour, with the disc of the lip whitish yellow veined with pink. They are also deliciously fragrant. The plant is now, we believe, in the collection of the Rev. Mr. Fletcher, of Chichester.

R. A. R.

CALENDAR OF OPERATIONS FOR JULY.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

FOR the general management of the houses regarding damping, airing, shading, &c., consult the previous issues bearing upon the summer treatment and conditions, likewise for matters touching upon potting, basketing, watering and syringing.

The heat of late has been intense, and quite upsets the figures given as a guide to the summer temperatures in the Calendar for May. In the East Indian House the thermometer has probably registered 10° to 20° in advance. But such extra heat is anything but detrimental, if accompanied, as it should always be, by a greatly increased amount of fresh air. It is then possible to create something similar to their native element, which imparts to the plants renewed health and vigour.

For Cool house plants some little anxiety may have been felt, as the temperature of this department has probably on many occasions risen almost as high as the warmest house. It has been practically impossible

to keep it down, nor is it altogether necessary that it should be so. I can assure amateurs that there is absolutely no ground for fear from this heat, for the short space of time which Nature favours us with it. So long as air is *plentifully* admitted both night and day, and moisture liberally distributed after the heat of the day is past, no harm whatever will result; in fact, in the long run it will produce a beneficial influence. Some new beginners thinking that the extra heat, even for a short time, will burn up or otherwise injure their cool Orchids, invent various schemes for keeping their house something like an ice house, but the plants as a rule do none the better for it, and their exertions in this respect are usually thrown away. Indeed, their plants run the risk of faring worse eventually than those having had to rough it, so to speak, for the latter, if healthy, become hardened and less susceptible to injury and disease, whilst the former may perhaps become drawn and sappy, with a tendency to weakness, although still retaining for the time being a more fresh, green, and healthy appearance.

Importations of Orchids are continually arriving, and those who prefer to purchase in that condition and who understand their treatment in such early stages, are quickly rewarded with healthy free growing plants, from what in the first instance would appear to be dried up specimens from which life had almost departed. When new arrivals are subjected to the moist conditions of the houses they quickly respond, and commence to push forth new roots and growths, and should then be potted up, and will soon become established. It is necessary, of course, to be a little careful with this work, and not seek to force them on too quickly, for Orchids will not be forced against their will. The process of resuscitation should be allowed to take place gradually. On receiving such imported plants, they should in all instances be inured to strong light by degrees. If they be Cattleyas or Lælias they should be freed from all dead roots, bulbs and leaves, the remainder being well washed and freed from dust and dirt, afterwards laying them on the stages and moistening at intervals when dry. If they be Odontoglossums, Oncidiums, and similar kinds, after being cleaned, they are best set on a layer of sphagnum moss, which should be kept moist, the earliest to root being picked out occasionally and potted up. Cypripediums, Angræcums, Phalænopsis and such like kinds are also best if their roots are placed in moss, and after the first wash the leaves had better be kept pretty free from water for a few weeks, or with too much moisture they may be inclined to damp off.

Orchids newly imported may be purchased at almost any figure, just in accordance with their size and healthiness. There are, of course, risks to take, and I suppose nothing can be had without them. Many bargains are undoubtedly made by buying in this stage, and choice varieties obtained at

small cost, but on the other hand some of them may never recover, whilst others may also turn out inferior varieties.

I have on several occasions pointed out the great advisability of keeping the plants absolutely free from injurious insect pests, and the simplicity with which, nowadays, this may be accomplished. Yet one may often notice the ravages of one or the other when viewing the collections of beginners, and this I observe is mainly due to an incomplete knowledge of the pests themselves, and of the signs which undoubtedly betray their whereabouts. In fact, yellow thrip and red spider are so minute that they are almost unobservable to the naked eye, and therefore the whitened, withered and dried up leaves and new breaks is frequently attributed to some wrong or unknown cause. Should the new breaks appear to come away unkindly, and show any signs of colour or mark other than a healthy green, an examination will most likely reveal the yellow thrip right down in the very heart. Nothing will disturb these creatures like a dust of tobacco powder. These thrips are also very fond of the tender flower buds, to which the same remarks apply. Should the fully-matured foliage become whitened on the under surface, black thrip or red spider are almost sure to be there. The former may be detected by a number of small black spots, which are the eggs of the insect in various stages. The presence of red spider is not so easily detected, and one must look very closely, when a number of tiny red specks will be seen, which are the insects themselves. In both cases, sponging off with soapy water occasionally will effect a cure. Aphis, both green and yellow, are, of course, large enough to be seen, and should never be allowed to remain upon the plant. The recent hot, dry weather has been favourable to the increase of the above named pests, and if present at all I would advise an immediate fumigation with XL All Insecticide, which with the help of a little tobacco powder in difficult places, as the axis of the leaves of Cypripediums—which turn quite rusty brown if thrip exist—will speedily have the desired effect. Cockroaches must also be kept down, and for this, Chase's Beetle Poison is an excellent and simple remedy.

All re-potting which it is intended to perform this season should be accomplished as far as possible during the present month, for if left until late in the season, the days begin to shorten, and there is but little time left for plants so disturbed to get well rooted again before the winter is upon them. Several species here and there will doubtless yet receive attention in this respect, probably a few Lælia purpurata, L. crispa, L. tenebrosa, L. Dayana and L. pumila. The last two are now breaking away very freely, and, if re-potted soon, recover at this period, because when they do make a start growth is very rapid, new roots being formed in abundance, and the flowers appearing about November. There are also a few of the

late blooming Odontoglossums in the Cool House which can be dealt with now.

On looking round, a few plants may now be found which have already completed their new growths, and these, of course, should have the lightest, driest and most airy positions secured for them, but the supplies of water at the roots should not at present be greatly diminished, because the roots are still actively running, and drought at the present juncture would probably cause secondary growths, which are better if absent. Among these will be some of the earliest Cattleyas, such as C. Warscewiczii, Gaskelliana, and C. Warneri, which bloom immediately the new psuedo-bulb is completed, either with or without a sheath, and those failing to do so quickly will most probably fail to do so this year, no matter what treatment is given. Some of the earliest of the Dendrobiums and Thunias may also be finishing up, and these it would be better to shift into a greenhouse or vinery for a few months as they finish off, but, as before said, **without reducing the water.**

Dendrobium Falconeri is a most lovely species when well grown, but is sometimes rather troublesome to keep for long in a healthy state. It greatly prefers an intermediate temperature, shade, and an abundance of atmospheric moisture when growing, but should be rested in a cool temperature throughout the winter months. Either a block, raft, or the stem of a tree fern is preferable to a pan or basket, because its roots, which are largely aerial, and appear from almost every node, have then something to which they can cling and find support. When fixing this to a raft—which I prefer, because the air has more play between the bars, keeping the roots in a more healthy state—a number of plants can be put together at the required distances apart, and a fine specimen thus built up, but no sphagnum or other material should be fixed round the base or roots, otherwise such material immediately round the roots will keep continually soddened by the frequent syringing, while the rest of the raft is dry; a condition of things which must, if possible, be avoided in the cultivation of all block or raft Orchids.

Pescatoreas and Bolleas are nearly allied, and very beautiful and interesting Orchids they are. They are easy of cultivation, provided suitable conditions are found for them, and when so they grow clean, handsome and graceful foliage, which is a pleasure to see; but unless something nearly approaching the correct treatment can be given, they are rather unsatisfactory plants to take in hand. An ordinary well-balanced East Indian house or stove, not too hot, meets their requirements best. They should there occupy a position tolerably well shaded, and where the atmosphere keeps pretty moist and evenly balanced. They may be grown either in pots or baskets, and their roots require nothing better than

sphagnum moss in which to ramble, and this should be kept moist the greater part of the year. Under such treatment they sometimes do extremely well, giving but little trouble, and a nice lot of lovely and curious flowers. On the other hand, however, they are sometimes like Phalænopses, not always seeming to fully appreciate one's efforts to treat them well. But even then some point may have been overlooked, and I advise all admirers of beautiful Orchids to give them a fair trial, for they are undoubtedly worthy of it.

Pescatorea cerina is a pretty species, producing its flowers from now until late in the autumn. They are of a pale yellow colour, waxy in substance, and from two to three inches across, the lip being tipped with purple more or less deeply; they also last a long time. P. Dayana is about the same size, the sepals and petals of which are more ivory white, tipped with green, and the lip purple. This species usually produces its flowers during the winter. P. Klabochorum is a great beauty, the flowers being larger and bolder, and the dark purple-colour with which the almost white sepals and petals are tipped is very striking. It is somewhat scarce. These plants, together with Warscewiczella and some others, are, by some authors, placed under *Zygopetalum*, which, however, seems different in growth, and in the structure of the flowers.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE first meeting of the Society's third year of existence was held at the Coal Exchange, Manchester, on June 8th last, when many fine Orchids came before the Committee, the following members of which were present:—Messrs. Shorland Ball (in the chair), Law-Schofield, Thompson, Duckworth, Parker, Cypher, Robson, Johnson, Dr. Hodgkinson, and Weathers (Hon. Sec.)

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed very fine forms of Cypripedium Lawrenceanum Hyeanum and C. callosum Sanderæ, and the latter was unanimously awarded a First-class Certificate, and was ordered to be painted. The former was similarly distinguished last year.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed a fine Lælia purpurata called Statteriana, to which the Committee gave a First-class Certificate under the name of L. p. Annie Louise.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-cattleya × Canhamiana, var. Duke of York, an exceedingly fine form, which received a First-Class Certificate, and was ordered to be painted. L.-c. × Iolanthe grandiflora (A.M.), L.-c. Iolanthe Duchess of York,

L.-c. Arnoldiana (A.M.), Cattleya Mossiæ grandiflora, C. M. gigantea, C. Mendelii, Lælia tenebrosa, Cypripedium × Ashburtoniæ expansum, C. Rothschildiaum, Odontoglossum × Coradinei, O. Pescatorei album (First-class Certificate). The group contained many other good things and was awarded a Silver-gilt Medal.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed a very pretty form of Cattleya Mendelii (A.M.) and Cypripedium × Gowerianum magnificum (First-class Certificate).

R. Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Lælio-cattleya × Cauhamiana (A.M.) and Lælia majalis (A.M.).

W. G. Groves, Esq., Windermere (gr. Mr. Robertshaw), showed a very fine Odontoglossum × Wilckeanum (First-class Certificate), O. crispum, Groves' variety (A.M.) and Phalænopsis grandiflora with a very fine spike of large flowers (A.M.).

Messrs. Charlesworth & Co., Bradford, showed a nice miscellaneous group in which Cattleya Mossiæ Reineckeana was strongly represented, and the best of which being brought before the Committee obtained a First-class Certificate; and a very fine form of Stanhopea tigrina was given an Award of Merit.

Mr. A. J. Keeling, Bingley, showed Cattleya Mendelii, C. Mossiæ fimbriata, C. M. gloriosa, a suggested natural hybrid between C. speciosissima and C. Mossiæ, Cypripedium Lawrenceanum and Acanthephippium bicolor, the group receiving a Vote of Thanks.

Mr. Robson, Altrincham, showed Odontoglossum luteopurpureum hystrix.

Mr. Cypher, Cheltenham, staged a small group, amongst which we noticed some good forms of Cattleya Mossiæ and C. Mendelii.

Messrs. Heath & Sons, Cheltenham, staged an interesting group of miscellaneous Orchids.

THE TEMPLE SHOW.

The great annual Show of the Royal Horticultural Society at the Inner Temple Gardens is looked for as the great horticultural event of the year, and has again been attended with great success. The display of Orchids was magnificent, the general opinion being that it was equal, if not superior, to anything yet seen at the Temple, and the arrangements made by the officials were excellent. The weather, too, was everything that could be desired, and the visitors correspondingly numerous. The dates fixed were May 31st to June 2nd, and consequently we were only able to include a short preliminary note in our last issue (page 191). The general arrangement is much the same as on previous occasions.

The premier group was contributed by the President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), and was superb in every respect, gaining the unanimous award of a Gold Medal. The back was made up of finely-cultivated specimens of the larger showy Orchids of the season, while interspersed among the smaller ones in front were many of the choice botanical rarities for which the collection is so noted. Among the plants which we specially noted were Epiphronitis × Veitchii, with ten fine racemes, two excellent examples of Vanda teres, each bearing about three dozen flowers, grand specimens of Thunia Marshalliana and Bensonæ, each with about twenty spikes, the fine T. B. superba, which received an Award of Merit, a fine Cattleya Mossiæ Wageneri with six racemes, Miltonia vexillaria varieties, profusely flowered, a grand plant of Dendrobium nobile nobilius, Odontoglossum luteopurpureum with a spike of nineteen flowers, several good O. crispum, one finely-grown specimen bearing five racemes, Cymbidium tigrinum with eight spikes, some being four-flowered, Epidendrum prismatocarpum with nine spikes, the white Sobralia macrantha Kienastiana, a number of good Cattleyas, of which C. Mendelii, Burford variety, and C. Mossiæ Goosensiana, each secured an Award of Merit, Lælia Cowani bearing a fine spike of bright yellow flowers, some good L. purpurata, the richly-coloured Lælio-cattleya × eximia, L.-c. × Canhamiana, a fine Phalænopsis amabilis, Masdevallia Harryana miniata with about 40 flowers, a fine M. H. regalis, Dendrobium Falconeri, a well-flowered example of D. Victoria-Regina on a small raft, the rare natural hybrid Oncidium × Larkinianum, O. pubes, some good O. concolor, Maxillaria Sanderiana, Epidendrum Schomburgkii, E. × Endresio-Wallisii, E. × elegantulum leucochilum, Cypripedium × Fowlerianum, Burford variety, a noble C. Lawrenceanum, and good examples of other species and hybrids. Among the rarer things were Campanemia uliginosa, a tiny Brazilian plant with white flowers, probably never previously exhibited, to which a Botanical Certificate was given. Cypripedium præstans (C. glanduliferum of gardens but not of Blume), which also received a Botanical Certificate, Restrepia trichoglossa, Polystachya Lawrenceana, bracteosa, bulbophylloides and zambesiaca, Saccolabium gemmatum, Masdevallia Wendlandiana, O'Brieniana, hieroglyphica, × Ajax, × Geleniana, caudata xanthocorys, Bulbophyllum elegans and barbigerum, Epidendrum fuscesens, Habenaria rhodochila, Physosiphon Loddigesii, Ornithocephalus grandiflorus with six spikes, and various other interesting things.

M. Jules Hye-Leysen, Coupure, Ghent, sent a small group of choice things which were arranged in a glass case, and also gained the award of a Gold Medal. It consisted of the superb Odontoglossum crispum augustum, unrivalled among blotched crispums (Cultural Commendation),

O. c. Perle de Congo, a pretty blush-tinted and somewhat spotted flower (Award of Merit), O. Hallii Lairesseanum, uniformly greenish yellow (Award of Merit), a fine O. × excellens, a good O. × Wilckeanum, a yellow form of O. triumphans, O. tripudians, Miltonia vexillaria alba, Lælio-cattleya Aphrodite Madame Albert Hye (First-class Certificate), L.-c. × Hippolyta with eight superb flowers, and two or three other good things.

J. Rutherford Esq., M.P., Beardwood, Blackburn, staged a fine group, consisting chiefly of good forms of Cattleya Mossiæ, very well cultivated, to which a Silver Cup was given. C. M. gloriosa was a large form, of fine shape and very richly coloured lip, to which an Award of Merit was given; other noteworthy forms being C. M. Wageneri, Reineckeana, and Rappartiana. The centre of the group was occupied by Lælio-cattleya × Aphrodite var. Ruth, a noble white flower with the front of the lip rich amethyst and some light yellow in the throat, and to this a First-Class Certificate was given.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), received a Silver Cup for a small group of choice Odontoglossums, with a large light form of Miltonia vexillaria, and four very good plants of the orange-scarlet Cochlioda Noetzliana in front, the whole being neatly arranged on a bank of hypnum moss. O. crispum Arthur Brisco, bearing a spike of thirteen tinted flowers well spotted on the centre of the segments, received a First-class Certificate, and O. triumphans King Alfred, a fine form with yellowish-white ground blotched with tawny yellow, an Award of Merit. Another noteworthy plant was O. luteopurpureum hystrix, bearing two inflorescences, one a spike of thirteen flowers, the other a magnificent panicle with six side branches and no less than forty-two flowers. It was imported about five years ago, and has been grown on to its present excellent condition. The others were O. × Andersonianum albo-maculatum, O. × Coradenei waltonense and O. × C. Roeblingianum, O. Pescatorei, O. × Wilckeanum Lowii, and half-a-dozen good examples of O. crispum.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), also received a Silver Cup for an excellent group, including a pretty deep-rose form of Phalænopsis Sanderiana called Wigan's var. (Award of Merit), a fine specimen of Dendrobium thyrsiflorum with ten racemes, D. Dearei, D. × Venus, D. × polyphlebium, the rare Stauropsis gigantea, Cypripedium callosum Sanderæ, C. bellatulum album, and a fine C. Godefroyæ, Epidendrum Parkinsonianum and Wallisii, Trichopilia tortilis, Cymbidium Devonianum with four racemes, fine examples of C. Lowianum, Maxillaria Sanderiana, Oncidium cucullatum, Miltonia Rœzlii, Cattleya Skinneri alba, C. superba, C. Schilleriana, the true Lælia grandis, fine forms of L.

purpurata, a fine example of Odontoglossum Œrstedii (Cultural Commendation), O. × elegantius, × excellens and crispum, Cœlogyne Schilleriana, Spathoglottis Vieillardii, Lælio-cattleya × Schilleriana, and others.

W. A. Gillett, Esq., Fairoak Lodge, Bishopstoke (gr. Mr. Carr), staged a very effective group, to which a Silver-gilt Banksian Medal was given. It contained some excellent forms of Cattleya Mossiæ, Odontoglossum crispum, O. Pescatorei, O. polyxanthum, Lælia purpurata, Dendrobium infundibulum, Oncidium ampliatum, O. luridum guttatum, Cypripedium niveum, a beautiful specimen of Miltonia Phalænopsis covered with flowers, and others.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), also received a Silver-gilt Banksian Medal for an effective group, in which, besides the usual showy species of the season, we noted a good Lycaste aromatica with fifteen flowers, the graceful Brassia verrucosa, Cattleya Loddigesii with three racemes, C. Skinneri, C. citrina, Odontoglossum Harryanum, a good O. cordatum, Oncidium Mashallianum, and others.

Malcolm S. Cooke, Esq., Kingston Hill (gr. M. Buckle) received a Silver Flora Medal for a good group, containing a number of good Odontoglossums, Ada aurantiaca, Oncidium cucullatum, Lycaste Skinneri, Masdevallia × Chelsoni, Harryana and ephippium, together with well-flowered examples of Miltonia vexillaria, Lælia purpurata, Cattleyas, &c.

Ludwig Mond, Esq., St. John's Wood (gr. Mr. Clark), also staged a pretty little group, which gained a Silver Banksian Medal. It included some good plants of Odontoglossum citrosmum, one of them bearing four racemes, a good O. Hallii, O. crispum, Cœlogyne pandurata, Dendrobium Devonianum, and some good Cattleyas and Lælias.

Captain Law-Schofield, Rawtenstall, Manchester (gr. Mr. Shill), sent a very fine dark form of Lælia purpurata called var. Annie Louise, with well expanded segments and a very fine lip, to which a First-class Certificate was given.

Walter Cobb, Esq,, Dulcote, Tunbridge Wells (gr. Mr. Howes), sent Miltonia vexillaria dulcotensis, a very richly-coloured form, to which an Award of Merit was given.

H. T. Pitt, Esq., Stamford Hill (gr. Mr. Thurgood), also received an Award of Merit for Cattleya intermedia Pitt's variety, a pretty blush-white form.

Major Joicey, Sunningdale Park (gr. Mr. Hislop), staged a splendid specimen of Angulia Clowesii with nineteen flowers, and Lueddemannia Lehmanni with four racemes, each of which deservedly received a Cultural Commendation.

T. Statter, Esq., Whitefield, Manchester (gr. Mr. Johnson), sent

Dendrobium Victoria-Regina with about twenty flowers, and the fine Lælia purpurata Statteriana.

M. J. Ragot, Villenoy, France, sent Lælia × Ragotiana (grandis ♀ × cinnabarina ♂) with undulate orange sepals and petals and a dark crimson lip. It bore two racemes and eleven flowers, and shows the characters of both the parents.

G. Shorland-Ball, Esq., Ashford, Wilmslow (gr. Mr. Gibbons), sent a good white form of Odontoglossum crispum.

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), sent good forms of Lælia purpurata and Cattleya Mossiæ.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Lælio-cattleya × Amazone, derived from C. maxima and L. purpurata, having blush sepals and petals, and some crimson round the prettily-veined disc.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), sent Lælia × cinnabrosa.

The trade groups made a superb display, each occupying a large amount of space, and we can only afford space to mention a few of their leading features. Silver Cups went to five exhibitors.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very fine group, containing many good Cattleya Mendelii and Mossiæ, of the latter the varieties Reineckeana and aurea grandiflora being the most striking; some fine C. Schilleriana, good forms of Lælia purpurata, Odontoglossum crispum in variety, O. × Adrianæ, a nice lot of the brilliant Masdevallia Veitchiana, M. × Courtauldiana, Lælia × cinnabrosa, a very good Vanda teres, Dendrobium atroviolaceum, a brilliant Lælio-cattleya × Hippolyta, Oncidium hastatum, the graceful O. phymatochilum, a fine specimen of O. divaricatum, Aërides Fieldingii, Epilælia × radico-purpurata and E. heatonensis (L. cinnabarina ♀ × E. × O'Brienianum ♂), the latter with dark-red Epidendrum-like flowers, the handsome Cypripedium × Gertrude Hollington, and other fine things (Silver Cup).

Mr. James Cypher, Cheltenham, had also a brilliant group, in which Cattleyas and forms of Lælia purpurata were excellent. We also noted some charming little plants of Sophronitis grandiflora and Oncidium concolor, O. sarcodes, O. Marshallianum, Dendrobium thyrsiflorum and nobile, Epidendrum xanthinum, radicans, evectum and × O'Brienianum, Odontoglossum × elegantius and others, Miltonia vexillaria, good examples of Cattleya citrina, a very pretty seedling from Cattleya Warscewiczii and Lælia Dayana, and other good things, the whole being very effectively arranged (Silver Cup).

Messrs. Linden, L'Horticulture Coloniale, Brussels, staged a fine group consisting largely of choice Odontoglossums, with a few good Miltonia

vexillaria and other things. Two plants which each secured an Award of Merit were Miltonia vexillaria Lindeniæ, a fine form with flowers prettily veined with pink; and Odontoglossum crispum Miss Linden, a good form, neatly and copiously blotched on all the segments. We noted also some good forms of O. × Andersonianum and O. × Wilckeanum, one of the latter bearing a spike of fourteen flowers; the pretty little O. × Wendlandianum, O. × cirrho-Hallii (raised artificially), O. triumphans Golden King, a form with the markings nearly yellow; a fine O. sceptrum, O. Pescatorei, and two or three very pretty forms of O. × Adrianæ (Silver Cup).

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a superb group, both culture and quality being excellent. Cattleya Mossiæ Beauty of Bush Hill is a large and beautiful form, with veined sepals and petals, the latter feather-like, and a richly-coloured lip, which secured a First-class Certificate, and C. Mendelii Perfection, a large blush form with richly-coloured lip, which gained an Award of Merit. Both species were represented by other good forms, C. Mossiæ Wageneri having the yellow of the disc lighter than usual. We also noted some well-flowered Dendrobium Bensonæ, the rare D. × Leeanum, D. Falconeri, the handsome Oncidium spilopterum, several good O. concolor, O. ampliatum and O. a. citrinum, the latter clear yellow with the brown markings totally obliterated; a good example of Cypripedium Sanderianum, Odontoglossum Uroskinneri, together with other showy species (Silver Cup).

Messrs. F. Sander & Co., St. Albans, also staged a very fine group, containing many excellent examples of Odontoglossum crispum, together with some good O. × Wilckeanum and O. × Andersonianum, also O. Coradinei, × mulus, × excellens, × elegantius, Pescatorei, ramosissimum, × Adrianæ and maculatum, a beautiful specimen of Cœlogyne Dayana, Bulbophyllum barbigerum with three racemes, Dendrobium atroviolaceum, and superbiens, Miltonia Phalænopsis, × Bleuana, and some excellent M. vexillaria, Oncidium superbiens, Lælio-cattleya × Hippolyta, and a new hybrid between Cattleya Mossiæ and Lælia tenebrosa, with flowers most like the former in colour and the latter in shape, some good Thunia Marshalliana, Cypripedium callosum Sanderæ, C. Sanderianum with a four-flowered spike, C. Chamberlainianum and a pretty hybrid between it and C. insigne; also C. × orphanum, × conco-bellatulum, × Richmanii and exul, the rare Lycaste Locusta, Cattleya nobilior, a fine specimen of C. Lawrenceana, and various other showy things (Silver Cup).

Messrs. Stanley Mobbs and Ashton, Southgate, staged a large and excellent group, to which a Silver-gilt Flora Medal was given. The arrangement was very effective, the outline being relieved with a virgin-cork stand at either end, in the pockets of which were placed good examples

of Miltonia vexillaria, Odontoglossum crispum and other Orchids. We noted also some fine examples of Oncidium Marshallianum, sarcodes, varicosum, and Lælia purpurata, remarkable among the latter being L. p. Ashtonæ, whose flower is pure white, with only a trace of pencilling on the yellow disc. The flower, however, was undeveloped. We also noted Cattleya Mossiæ, Mrs. C. H. Feiling, with a very dark and richly coloured lip, which secured an Award of Merit, two good plants of Epidendrum hastatum with eleven flowers each, Cypripedium × Gertrude Hollington, C. Masterianum, Physosiphon Loddigesii, some fine Lælia tenebrosa and other showy things.

Messrs. B. S. Williams & Son, Upper Hollow, also staged a large and showy group, to which a Silver-gilt Banksian Medal was given. It contained some fine examples of Oncidium Marshallianum, concolor and sarcodes, Calanthe Sanderiana and veratrifolia, a nice lot of Lælia purpurata, together with nearly a score each of Cattleya Mendelii and Mossiæ, the former being especially in fine condition, Cymbidium Lowianum, Miltonia flavescens, Anguloa Clowesii, Vanda tricolor, suavis and teres, Dendrobium Devonianum, Cœlogyne Massangeana, Cypripedium superbiens, barbatum, Odontoglossums, &c., also a fine example of Macodes Petola under a bell-glass.

Messrs. James Backhouse and Sons, York, had also a small group of Orchids tastefully arranged with foliage plants. It included a good Lælia tenebrosa, Sobralia macrantha and × Amesiana, the handsome Oncidium Lanceanum and Marshallianum, a very fine form of Cattleya Schilleriana, Dendrobium Dearei and suavissianum, together with a few examples of Cattleya Mossiæ, Mendelii, Odontoglossum crispum, and Cypripedium bellatulum.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

The display of Orchids at the Drill Hall, James Street, Westminister, on June 13th, was exceptionally fine, considering how quickly it followed the great Temple Show. The members of the Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), E. Ashworth, T. B. Bond, H. J. Chapman, J. Colman, S. Courtauld, De B. Crawshay, J. G. Fowler, J. T. Gabriel, H. Little, F. Mason, A. Outram, H. T. Pitt, F. Sander, A. H. Smee, W. H. Young, and, by invitation, Hugh Dixson, of Sumner Hill, N. S. Wales.

Sir Frederick Wigan, Bart., East Sheen (gr. Mr. Young), staged a fine group, which gained a Silver-gilt Flora Medal. It contained three beautiful forms of Cattleya Mendelii, a nice series of C. Mossiæ forms, including a fine C. M. Reineckeana, C. Mendelii albescens, nearly

white, but tinted with very light blush (Award of Merit), some good Miltonia vexillaria, including M. v. alba, and the handsome M. v. Memoria G. D. Owen (Cultural Commendation), a good Epidendrum atropurpureum, Odontoglossum × elegantius, some good Cypripediums, Lælias, &c.

De Barri Crawshay, Esq., Sevenoaks (gr. Mr. Cooke), sent the large and handsome Odontoglossum × Coradinei Crawshayanum (Award of Merit), and a nice lot of O. crispum, remarkable both for quality and good culture. One of them carried a good capsule on last year's bulb, and has since produced two fine spikes. The group received a Silver Banksian Medal.

J. Bradshaw, Esq., Southgate (gr. Mr. Whiffen), also staged a very good group, containing several good Cattleya Mossiæ, a beautiful C. Mendelii, C. intermedia alba, C. Warneri, Lycaste Deppei, Epidendrum vitellinum, Dendrobium Jamesianum, Lælio-cattleya × Aphrodite, and some good Odontoglossum crispum and Lælia purpurata.

J. G. Fowler, Esq., S. Woodford (gr. Mr. Davis), sent a finely-coloured form of Lælio-cattleya × Aphrodite, and some good Lælias and Cattleyas, two which secured Awards of Merit being C. Eldorado Glebelands var., a bright rose-coloured variety, with very dark lip in front of the orange throat, and C. Mossiæ Victoria, a fine white, with delicate light purple reticulation on the petals, and much yellow on the lip.

E. Ashworth, Esq., Wilmslow (gr. Mr. Holbrook), sent Odontoglossum × Adrianæ Ashworthianum, a very large cream-white form densely spotted with light brown, which secured a First-Class Certificate.

Mr. J. D. Leech, The Gardens, Wood Hall, Dulwich, sent a large, finely-flowered Epidendrum Wallisii, which received a Cultural Commendation.

A. H. Smee, Esq., Carshalton (gr. Mr. Humphreys), sent Bulbophyllum nutans and B. modestum, each receiving a Botanical Certificate.

Leopold de Rothschild, Esq., Gunnersbury (gr. Mr. Hudson), sent the pretty little Bartholina pectinata, which gained a Botanical Certificate.

G. W. Bird, Esq., Manor House, West Wickham (gr. Mr. Redden), sent two good forms of Odontoglossum crispum, and one of O. × Andersonianum.

W. P. Burkinshaw, Esq., Hessle (gr. Mr. Barker), showed a fine form of Lælio-cattleya × Canhamiana.

N. C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Murray), sent a good form of Lælio-cattleya × C. G. Roebling.

R. G. Fletcher, Esq., Mount Harry, Brighton, sent a pretty rose-tinted form of Odontoglossum crispum, and a very good O. × Adrianæ.

T. B. Haywood, Esq., Reigate (gr. Mr. Salter), sent a nicely spotted Odontoglossum crispum guttatum.

F. W. Moore, Esq., Royal Botanical Gardens, Glasnevin, sent Epidendrum porphyreum and Eulophia guineensis.

H. T. Pitt, Esq., Stamford Hill (gr. Mr. Thurgood), sent Cattleya Forbesii, Zygopetalum crinitum, and a light-coloured form of Lælia tenebrosa.

Baron Sir H. Schröder, Staines (gr. Mr. Ballantine), sent the beautiful Phalænopsis × John Seden.

H. F. Simonds, Esq., Beckenham (gr. Mr. Day), showed a large form of Lælia purpurata.

Messrs. James Veitch & Sons, Chelsea, showed an exceptionally fine group, which secured the award of a Gold Medal. It contained several fine forms of Lælio-cattleya × Canhamiana and × Aphrodite, L.-c. × Wellsiana, × Hippolyta, a nice lot of Disa × Veitchii, Phalænopsis × Luedde-violacea, several forms of Epidendrum × O'Brienianum, E. × elegantulum and var. luteum, Epiphronitis × Veitchii, the beautiful Spathoglottis × aureo-Vieillardii, Lælia × Latona and some good L. purpurata, Masdevallia × Curlei and a splendid pan of M. Veitchiana grandiflora, Cattleyas Mossiæ and Mendelii, Sobralia macrantha Kienastiana, Trichopilia coccinea, Cœlogyne Dayana, Angræcum modestum, Phaius bicolor, and numerous good Miltonias, Odontoglossums and Oncidiums. Awards of Merit were given to Epidendrum × langleyense (Wallisii ♀ × Pseudepidendrum ♂) and Lælio-cattleya × Lucilia (L.-c. × Schilleriana ♀ × C. Dowiana ♂).

Messrs. Hugh Low & Co., Enfield, staged a good group which received a Silver Banksian Medal. It contained a series of grand forms of Cattleya Mossiæ, some excellent C. Mendelii, and Odontoglossum crispum, Epidendrum prismatocarpum, Lælia flava, Aërides Houlletianum and other showy species.

Messrs. Stanley-Mobbs & Ashton, Southgate, also obtained a Silver Banksian Medal for a good group, including fine forms of Cattleya Mossiæ, C. Schilleriana, Lælia tenebrosa, Odontoglossums, Oncidiums, and other showy species.

Mr. T. Rochford, Broxbourne, showed Odontoglossum × Adrianæ Rochfordianum, a handsome form with two strong spikes (Cultural Commendation).

Messrs. F. Sander & Co., St. Albans, showed a small group of Orchids, the most noteworthy being the handsome Lælio-cattleya × Ingramii superba, with intensely dark lip, and a very fine form of L.-c. × Gottoiana.

Messrs. J. MacBean & Sons, Cooksbridge, sent a beautiful white form of Cattleya Mendelii, with a small rose marking on the lip.

Mr. W. Bolton, Warrington, showed Cattleya Mendelii Blue Queen, a pretty light form with a tint of lavender-blue on the lip.

ORCHID PORTRAITS.

CATTLEYA LABIATA VAR. LILACINA, L. Lind.—*Lindenia*, t. 649.

CATTLEYA MOSSIÆ (specimen plant).—*Gard. Chron.*, June 24, p. 411, with plate.

CATTLEYA TRIANÆ VAR. CŒRULESCENS, L. Lind.—*Lindenia*, t. 653.

CYPRIPEDIUM × ALICE (malformed).—*Gard. Chron.*, June 3, p. 351, fig. 125.

CYPRIPEDIUM INSIGNE VAR. NOBILIUS, L. Lind.—*Lindenia*, t. 656.

DENDROBIUM NOBILE COOKSONI.—*Garden*, June 24, p. 445, with fig.

DENDROBIUM PIERARDI LATIFOLIUM.—*Garden*, June 10, p. 405, with fig.

EPIPHRONITIS × VEITCHII.—*Journ. of Hort.*, June 22, p. 514, fig. 112.

LÆLIA PRÆSTANS VAR. ALBA OCULATA, L. Lind.—*Lindenia*, t. 655.—var. Leemanniæ, L. Lind.—*l.c.*, t. 652.

LÆLIA PURPURATA ANNIE LOUISE.—*Journ. of Hort.*, June 22, pp. 514, 515, fig. 113.

LÆLIO-CATTLEYA × APHRODITE RUTH.—*Gard. Mag.*, June 10, pp. 345, 348, with fig.

ODONTOGLOSSUM × CORADINEI VAR. MOORTEBEEKIENSE, L. Lind.—*Lindenia*, t. 650. A form of O. × Denisonæ (Wilckeanum).

ODONTOGLOSSUM CRISPUM (with three stamens).—*Gard. Chron.*, June 24, p. 413, fig. 152.

ODONTOGLOSSUM CRISPUM ARTHUR BRISCO.—*Journ. of Hort.*, June 15, p. 484, fig. 107.

ODONTOGLOSSUM CRISPUM VAR. TIGRINUM, L. Lind,—*Lindenia*, t. 651.

ODONTOGLOSSUM SOLEIL DE MUYSEN, L. Lind.—*Lindenia*, t. 654. A form of O. × excellens.

ONCIDIUM VARICOSUM ROGERSII.—*Garden*, June 10, p. 408, t. 1226.

PHALÆNOPSIS × J. SEDEN.—*Garden*, June 24, p. 448, with fig.

PHALÆNOPSIS × LEUCORRHODA CASTA.—*l.c.*, p. 449, with fig.

PHALÆNOPSIS × SCHRŒDERÆ.—*l.c.*, p. 449, with fig., also t. 1228.

SACCOLABIUM CŒLESTE.—*Journ. of Hort.*, June 15, pp. 484, 485, fig. 108.

SELENIPEDIUM × MACROCHILUM GIGANTEUM GRANDE (malformed).—*Gard. Chron.*, June 3, p. 360, with plate.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W.S, Wonham.—A light yellow, little spotted form of Odontoglossum × Andersonianum, and a light form of Dendrobium nobile, but we think not quite var. Cypheri.

H.G., Haslingden.—Lælia tenebrosa, a good, very well coloured variety.

T.C.H., Richmond.—Yes, certainly Masdevallia coriacea. The seedling we fail to identify at present.

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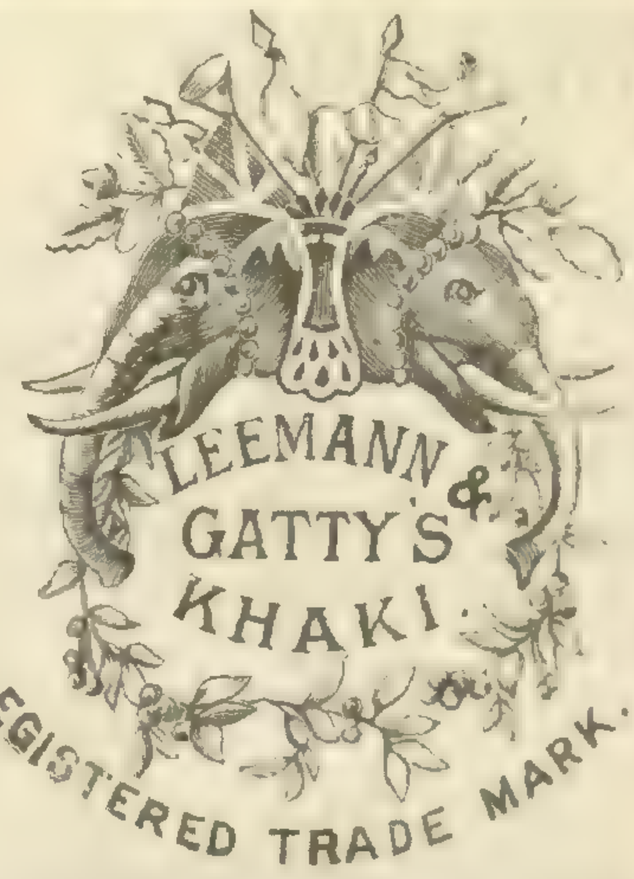

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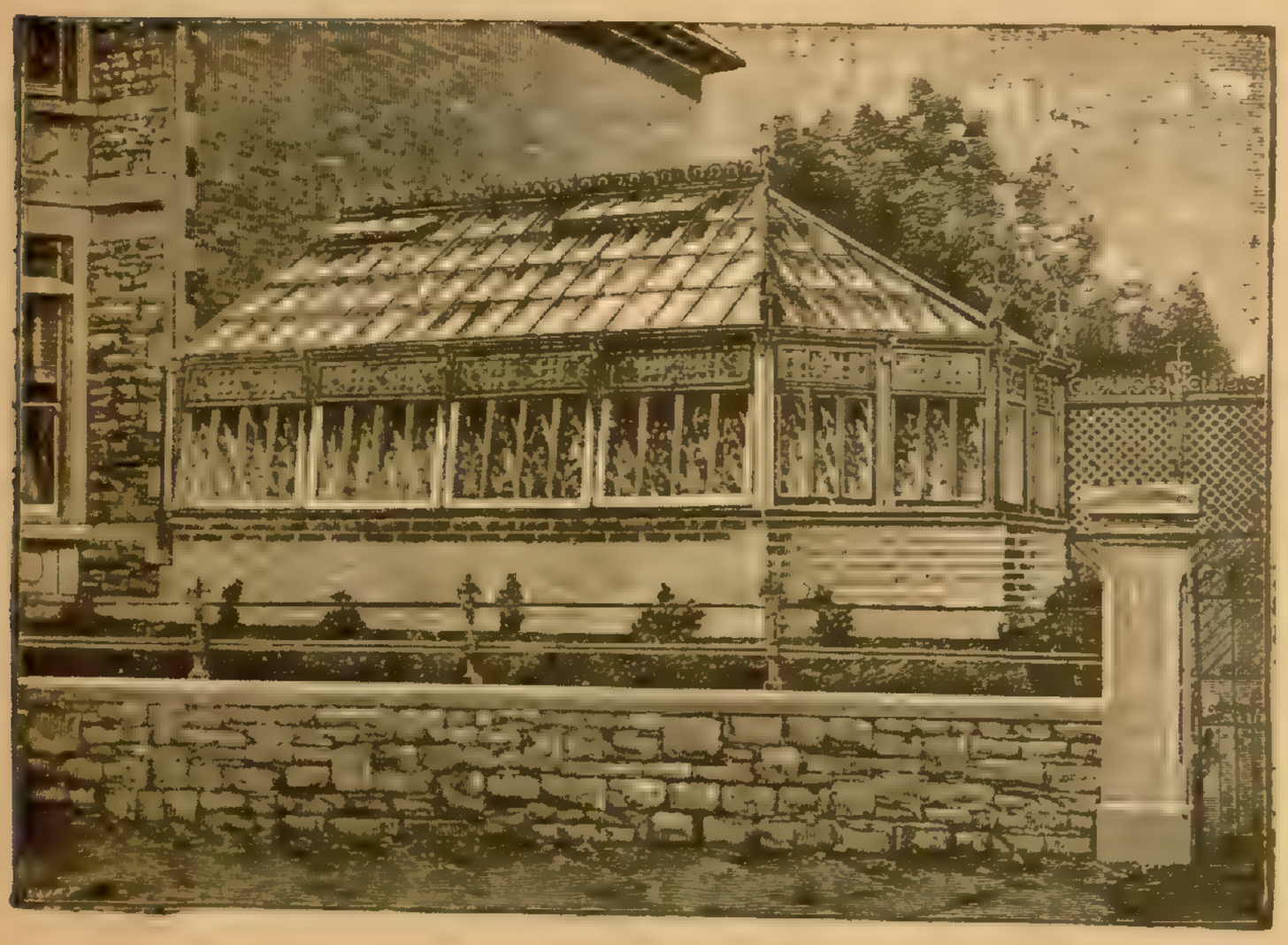

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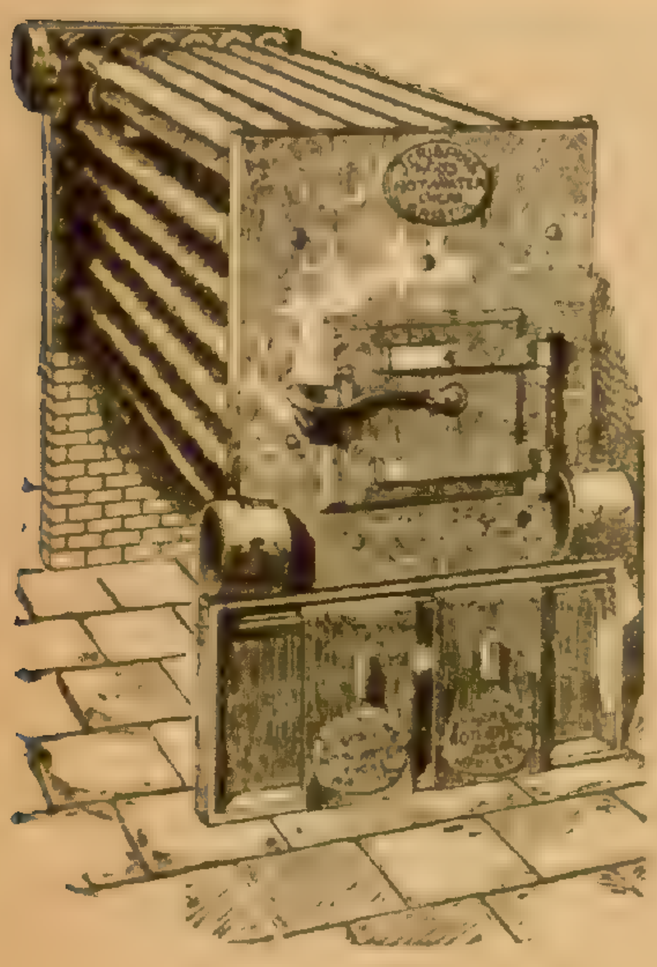

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during August, on the 15th and 29th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The August meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on the 17th inst. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 o'clock until 3 p.m.

We learn that the Society has again decided to award, at the end of the Society's year, Gold, Silver-gilt, and Silver Medals to the three members who shall obtain the highest number of marks for exhibits during the year, on the same lines as those given last year.

The issues of the *Dictionnaire Iconographique des Orchidees* for January and February last are recently to hand, and contain the usual instalment of beautiful little pictures, among which we notice the rare Maxillaria Houtteana, Dendrobium ochreatum, Odontoglossum Œrstedii, Phalænopsis Esmeralda, and the brilliant Lælio-cattleya × Hyeana. An unfortunate mistake occurs respecting Cattleya Loddigesii and C. Harrisoniana, the figures and descriptions of which are unfortunately transposed, as anyone may see who will compare them with the original figures. The way in which these two names have been transposed in gardens has been alluded to on more than one previous occasion.

A very curious flower of Paphiopedilum barbatum is sent from the collection of the Rev. E. Baddeley, Long Marston, York, which consists of one sepal, and one petal in addition to the lip. The sepal is underneath

the lip, and apparently consists of two united, while the petal occupies the erect position of the dorsal sepal. The staminode is also abortive, and one anther only developed, though the stigma is normal. The peculiarity seems fixed, this being the third year it has flowered in this condition.

A series of Disas sent from the collection of H. J. Elwes, Esq., Colesborne, Gloucestershire, by Mr. Lane, include the beautiful D. × Veitchii, with its parents D. racemosa and D. grandiflora, also D. × kewensis, derived from the last named and D. tripetaloides, and a new seedling, which, it is thought, may have come from D. racemosa crossed with D. × Veitchii, for in the petals and other characters it seems about three-fourths racemosa. The record gave D. × kewensis as the pollen parent, but there is scarcely a trace of the tripetaloides spots, and Mr. Lane thinks this must be a mistake. It may be possible to clear up the doubtful point in future.

An Orchid is a rather unlikely place in which to look for a bird's nest. A robin, however, has selected a medium-sized plant of Phragmipedilum × Dominianum for the purpose in Messrs. Hugh Low & Co.'s Nursery at Bush Hill Park, and has successfully hatched two young ones. The plant is not secluded, and Messrs. Low have not seen such a thing before.

A three-flowered raceme of the pretty little Masdevallia × Acis is sent from the collection of Captain Hincks, Richmond, Yorks. It is a seedling from M. abbreviata, crossed with either M. Veitchiana or one of its hybrids, this point being still uncertain. From comparison, however, we think the pollen-parent was M. × Chelsoni. It is much like the seed-parent in general character, but the flowers are considerably enlarged, and covered with the iridescent violet hairs of M. Veitchiana, the contiguous halves of the lateral sepals being deep yellow and the tails reddish-orange. It was described at page 82 of our fourth volume.

A supplement to the *Gardeners' Chronicle* for July 15th contains the portraits of thirty-six distinguished hybridists, and among them the following Orchidists: the late John Dominy, the pioneer of Orchid hybridisation; his successor, John Seden; Charles Maron, the raiser of so many fine hybrids in France; C. C. Hurst; and R. A. Rolfe.

A splendid raceme of Cattleya Leopoldi is sent by Messrs. Hugh Low & Co., Bush Hill Park, Enfield, bearing twenty-six richly-coloured flowers, and was evidently cut from a very strong plant. When thus grown it is a noble species.

A raceme of the prettily variegated Cattleya Gaskelliana picta is sent by Mr. A. J. Keeling, of Bingley, Yorks. It came out of a last year's importation, and is now flowering for the first time.

We have received the new edition of the Collection of Cypripediums of R. H. Measures, Esq., The Woodlands, Streatham, brought down to June last, which we learn has been revised with the help of Messrs. F. Sander & Co. It now extends to 203 pages of waistcoat-pocket size, and is over half-an-inch thick. It is very useful as a means of ascertaining the history of any given plant, but it would have been handier to use if the 27 pages of "Addenda" had been incorporated in the body of the work. Here we note over a page of additional named varieties of C. insigne, making an aggregate of over 150, though it is difficult to see what useful purpose thirteen pages of names without additional information can serve.

The Decennial Congress of Botanical Science of Belgium has, by Royal Warrant of July 4th, 1899, awarded to Professor A. Cogniaux, of Verviers, a prize of 5,000 francs for botanical work accomplished between 1892 and 1898, including the Orchids of the *Flora Brasiliensis*, and the Dictionnaire Iconographique des Orchidèes.

His Majesty the King of the Belgians, by a degree signed at Laeken on June 27th last, has conferred on Dr. Maxwell T. Masters, F.R.S., Editor of the *Gardeners' Chronicle*, the honour of Officer of the Order of Leopold.

The President and Council of the Royal Horticultural Society have awarded a Victoria Medal of Horticulture to Mr. James Douglas, in place of the late Malcolm Dunn. The honour is well deserved, as Mr. Douglas' services to Horticulture, inclûding Orchidology, are well known.

A pretty white form of Cattleya Mossiæ with some lilac veining on the lip in front of the yellow disc, is sent by Mr. G. Bayer, of Hamburg. It is allied to C. M. Reineckeana.

DIES ORCHIDIANÆ.

THE Hybridisation Conference was certainly the event of the past month, and on the whole passed off very successfully. It is too soon at present to estimate the aggregate results, and the appearance of the full report will be awaited with interest. So far as Orchids are concerned, however, I must confess to a little disappointment that the occasion did not produce more in the way of novelty. Of course, hybrid Orchids are not made in a day, and there is no known means of getting them to flower to order, or the result would have been different. There were some novelties—at all events, I do not remember to have met with them before—and I am curious to know which of them will secure the Veitch Memorial Medal. The awards of the Orchid Committee have been published, but those of the Special Committee appointed for this occasion are, I believe, not yet announced. Of

older hybrids there was a fine display, the groups shown by Messrs. James Veitch & Sons, and by M. Ch. Maron, being fine in themselves, and specially interesting because raised by the exhibitors. There were also several other groups, among them that staged by the President, Sir Trevor Lawrence, being very fine, and a specially interesting feature was that the parents, or such of them as were available at the time, were present for comparison, as was also the case in Messrs. Veitch's exhibit. It was unfortunate, however, as the event proved, that the exhibition had to be held in the big Vinery, for the atmosphere was like that of a Turkish bath, and it was a relief to be able to get outside again. The building might serve on a cool day, but if the experiment is repeated I hope to see a tent provided for the occasion.

The question of Lælio-cattleya × Dominiana and its varieties has been pretty fully discussed in recent issues (pp. 50, 69), and now another chapter may be added to the history. It appears that at the R.H.S. Meeting on June 27th, a plant was exhibited under the name of Lælio-cattleya × Fire King, the parentage being unrecorded. This the Orchid Committee recognised, and accordingly changed the name to L.-c. × Dominiana Fire King before granting a First-class Certificate. Two days later a plant was brought before the Manchester Orchid Society by another exhibitor under the name of L.-c. × Fire King var. Frances Mary, and was awarded a First-class Certificate under that name. This makes the sixth distinct name which this hybrid has received, and as for awards it seems able to secure one each time it appears. The R.H.S. alone has given it four First-class Certificates and three Awards of Merit, and I hope they will make a note of the fact for future use. It is at least satisfactory that they inserted the correct specific name before granting the award, and I can only regret that the Manchester Society overlooked this little detail.

The distinctness or otherwise of two or three Lælia purpurata varieties was discussed last month (pp. 198, 199), and now we have a further contribution to the question. A figure of L. p. Mrs. R. J. Measures has appeared (*Garden*, July 15th, p. 46), having been reproduced from a photograph, and certainly shows very little if any character by which it may be distinguished from L. p. Annie Louise. It appears, however, to have come from a different source, having been sent from Brazil direct by Kromer. The flowers are said to have been slightly smaller than the one certificated at the Temple show, but this is attributed to the raceme bearing five flowers (as shown in the figure), while Mr. Law-Schofield's plant had only two. The R.H.S. Orchid Committee, however, appears to have considered them distinct, for the Temple award is said to have been

made after comparison of the three plants, two of which are known to be subdivisions of one original one. But distinct or not we read:—"Surely such a plurality of names is unnecessary, especially now the Orchid Committee has the coloured drawings to fall back upon. There are surely blunders enough in the nomenclature of hybrids in the past, where distinctive names have been recognised over and over again of plants from the same parentage. Continuation of this system can only cause greater confusion."

A correspondent alludes to the rapidly growing confusion in the nomenclature of hybrids in very caustic terms, and admires the candid remark made by the Editor of the *Gardeners' Chronicle*, reproduced in my last month's notes (p. 196) :—"We fear that complications of the kind are more often intentional than accidental." And, what is more, he sends two or three instances of changes of names and records of parentages, which have such a remarkable connection with some recent awards that he cannot regard them as merely accidental; and, after perusing them, I regret to say that I am forced to the same conclusion. My correspondent asks me to give the matter my most careful attention, and I certainly will give an eye to the business. The question is certain to crop up again when the records and parentages of certain hybrids come to be seriously considered, as they eventually must be. And here the matter must remain for the present.

ARGUS.

THE NEW ORCHID HOUSES AT KEW.

DURING last year, says the *Kew Bulletin*, the Orchid houses in the Royal Gardens, Kew, were entirely re-constructed. The old houses, which were erected in 1869, had proved quite unsuited to the cultivation of Orchids according to modern practice; they were too lofty, and the plants in consequence too far removed from the glass. They were, in fact, almost useless except for the temporary exhibition of plants in flower, which had been grown in the Orchid pits. The woodwork of the houses had so far decayed that their re-construction had become necessary. It was decided to carry this out on an entirely different plan. The mixed construction of wood and iron (or rather rolled steel) now generally employed at Kew was adopted. The tall central stage was abolished, and two parallel ranges, each 82 feet long and 12 feet wide, were erected on the site which had formerly been covered by a single span. Each range is divided by a transverse partition into a warm and cooler portion. The southern (left-hand) range has an ordinary stage on the left side, and a low bed on the right for large plants. In the warm portion will be found the species of

Dendrobium, Eria, Cattleya, Bulbophyllum, and Stanhopea, &c.; in the cooler, those of Cymbidium, Sobralia, Maxillaria, Epidendrum, Cœlogyne, Lælia, &c. The northern (right-hand) range has ordinary stages on both sides, that on the left being over a tank. The warm portion is devoted to such genera as Vanda, Aerides, Phalænopsis, Angræcum, Cypripedium, and Anœctochilus; the cool to Odontoglossum, Masdevallia, Oncidium, Lycaste, &c. These ranges, which are open to the public, now contain a large proportion of plants which are permanently cultivated in them. They still serve, as before, for the exhibition when in flower of those which require special cultural treatment in the Orchid pits. These pits are connected with the exhibition houses by a glazed corridor, which also communicates with a new potting shed.

OBITUARY.

We regret to learn of the death, on July 14th, after a very short illness, of Major Mason, J.P., of The Firs, Warwick. The deceased gentleman, who was in his seventy-ninth year, has long been known to Orchid growers as the possessor of a fine representative collection, and at the time of his death was a member of the Orchid Committee of the Royal Horticultural Society, besides having formerly served on the Council. During early life he was in the service of the East India Company.

CORYANTHES MASTERIANA.

This interesting species has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It was described in 1891 by Lehmann (*Gard. Chron.*, 1891, x, p. 483), as a plant of Colombian origin, where it grows on trees or woody lianas, not far above the ground, in dense and exuberantly-developed woods at the lower extremity of the valley of the Cauca at an elevation from 800 to 1,100 mètres. The plants were said to be large and very floriferous, and the spike stiff, upright, and two to three-flowered. In the details of the lip it does not quite agree with the original description, which runs as follows:—

"The lip, connected with the column by a short, thin arm at a right angle, consists of a thick, deep, bell-shaped hypochil, which is 2·5 cm. in diameter, 2 cm. deep, and with a smooth limb; a thick, fleshy, cymbiform, gibbous mesochil, which, on its outside, bears three large, tooth-shaped callosities, of which the lower one is the largest, and hidden in the hood of the hypochil; and a large, bell-shaped epichil, which has a two-lobed margin, and a fleshy, deep, tridentate apex. The colour cannot be given

with certainty, as the only flowers found were already slightly faded; it appears to be yellow, stained with red, the hypochil of the lip deep, glowing red."

The flowers produced under cultivation have the hypochil, or helmet, dorsally compressed, three-quarters of an inch broad and high, with the margin sinuately arched in front, and bearing inside and near the margin outside some remarkable stellate hairs of cystalline appearance, and the mesochil, though strongly gibbous, is not broken up into three teeth. These differences, however, may arise from variation in the species. The colour of the sepals, petals, epichil (bucket), and face of the column is yellow, densely spotted with red-brown; the mesochil darker and less spotted, and the helmet marbled with deep brownish crimson, with only a few traces of yellow at the back. It is interesting to find another species of this remarkable genus in cultivation. It can best be compared with C. maculata, which, together with the large and handsome C. macrantha, has recently flowered at Kew.

R. A. R.

THE MERE BANK COLLECTION.

D. B. RAPPART, Esq., may be congratulated on his success in the art of Hybridisation in his collection at Liscard. It seems to be perfectly easy for him to obtain healthy, strong seed pods on Dendrobium Wardianum, for he has done so on several occasions, and is now rewarded with tiny seedlings of which that species is the seed-bearing parent; while at the present time there is to be seen in his houses a very fine large pod nearing maturity which is remarkably distinct from most others, on account of its peculiar glaucous colour. It is fertilized with D. × Ainsworthii intertexum. The above feat is well worthy of record, but it seems to be overshadowed by another, which is nothing less than a fine batch of Odontoglossum seedlings, up and doing well. These are from the crosses:—O. crispum × Edwardii, O. cordatum × Edwardii (also the reversed cross), and O. Edwardii × Uroskinneri. Needless to say these wonderful little plants are watched and nursed with great care and justifiable pride, both by Mr. Rappart and his able gardener, Mr. Nicholson.

There are many other seedlings here of great interest in different stages of growth, such for instance as D. Wardianum × nobile, D. W. × n. nobilius, D. W. × splendidissum grandiflorum, D. nobile grandiflorum × Ainsworthii intertexum, Lælia purpurata × Cattleya Warscewiczii, L. tenebrosa × Cattleya Warscewiczii, C. Mossiæ × Warscewiczii, Lælia superbiens × Cattleya Dowiana aurea, C. Skinneri alba × Parthenia, C. Gaskelliana alba × Lælia Digbyana, and L. purpurata × Digbyana.

We also noted a number of extremely rare species, and hybrids in cultivation, including such grand things as Cattleya Gaskelliana alba, C. intermedia Parthenia, C. Mossiæ concolor, C. M. Rappartiana, C. M. Wageneri, C. Eldorado Wallisii, C. Trianæ Sander's var., C. T. Backhousiana, C. T. alba, C. Mendelii Venus, a grand specimen plant of C. × Hardyana, and Lælio-cattleya × exoniensis. We also noticed a fine batch of Dendrobium Findlayanum album, D. × Apollo grandiflorum, D. nobile Amesiæ, D. n. albiflorum, D. n. Rappartianum, D. n. Hutchinsoni, D. × Schneiderianum, D.× Juno, D × Luna, and many other good Dendrobes.

A particularly fine lot of Cattleya superba should be here mentioned, as it is generally understood that this species deteriorates. This is evidently not the case here, as it produces fine pseudobulbs each year, and looks to be equally well at home as the most easily grown species. I suppose it is this all important point, that the position has been hit off to a nicety. They receive an ordinary Cattleya house temperature; and are cultivated in the teak wood pot-shaped baskets now so popular for Cattleyas, Lælias, and Dendrobes. In fact, Mr. Rappart grows the whole of his Cattleyas in these receptacles and finds them admirably adapted for the purpose—and suspended near the roof glass, receiving an abundance of water throughout the growing season. In the same department, and also suspended, is likewise a grand batch of Cattleya Warscewiczii (gigas) in fine condition, and promising well for a fine show later on, whilst equally worthy of note is a batch of Vanda cærulea doing well.

Growers of Lælia Digbyana and Oncidium sarcodes, two well known difficult species, will also be interested to hear of the methods adopted here and which seem to prove eminently successful. They are simply planted in pots in nothing else but the best leaf soil, and are certainly doing well, and no better proof than this should be necessary as to whether leaf soil is a suitable compost. It is claimed that these species growing naturally fully exposed are disposed to root deeply in search of moisture, and this being so the leaf soil is a capital substitute for their native soil. There would be no harm in trying a few more of the sun-loving Orchids which are difficult to cultivate in a similar compost. Oncidium Marshallianum is also here being cultivated in leaf soil, and is doing well.

A small department is devoted to the culture of Lælia anceps, the plants receiving the full rays of the sun, and succeeding very well, numerous flower-spikes now commencing to make their appearance.

Much interest is just now centred on a nice plant of what was purchased (newly imported) for a pure white Cattleya Warscewiczii (gigas), as the time is approaching when it may probably flower. We earnestly hope it may turn out to be what it was represented to be.

H. A. B.

THE HYBRIDISATION CONFERENCE.

THE Conference on Hybridisation and Cross-breeding, convened by the Royal Horticultural Society, which may be described as the most important event of the Society's year, was opened at the Society's Gardens, Chiswick, on July 11th, and brought together a thoroughly representative gathering, including several distinguished Continental and American hybridists. The exhibits were staged in the big Vinery, and as the day was fine and very hot it proved anything but a suitable building for the purpose, the heat being excessive. The various Committees, including a special one appointed to advise the Council as to the awards, met at 12 o'clock, and, after adjudicating upon the exhibits, were entertained at luncheon, together with the foreign guests; and this being over, the business of the Conference proper commenced. An account of the Orchids exhibited will be found on another page, and in the following report we shall have to confine ourselves chiefly to Orchids and to those general questions which have some bearing upon the subject.

The Conference was held in a large tent on the lawn, Dr. Masters, F.R.S., being in the Chair. In his opening remarks, the Chairman, after welcoming "our friends from across the sea," thanked the Council of the Royal Horticultural Society for the opportunity of meeting in these time-honoured gardens to discuss what he ventured to think was one of the most important subjects in modern progressive horticulture. To appreciate the importance of cross-breeding and hybridisation, we had only to look round our gardens and exhibition tents, or to scan the catalogues of our nurserymen. A few years ago the phrase "new plants" meant new introductions from abroad, but now, with the possible exception of Orchids, such plants were relatively few. The new plants of to-day were mostly products of the gardener's skill. Selection had done much to improve our garden plants, but it was cross-breeding that furnished the materials for selection. After alluding to some of the early hybridists, the prejudices which then prevailed, and the counteracting influence of Dean Herbert, who demonstrated the fact that hybrids existed in nature, the speaker alluded to the natural hybrid Orchids indicated by Reichenbach, some of which were afterwards confirmed by Messrs. Veitch and others. A prejudice still existed in the minds of certain botanists, which he thought mistaken, as we ought to welcome hybridisation as one means of ascertaining the true relationships of plants and the limitations of species and genera. For scientific reasons as well as for practical ones, the study of cross-breeding was important, and we should welcome the opportunity which this Conference affords of extending our knowledge of the subject.

Mr. W. Bateson, M.A., F.R.S., dealt with "Hybridisation and Cross-

breeding as a method of scientific research," and indicated some of the results that might legitimately be expected from a study of the subject in its bearing on the evolution of species. He emphasized the importance of keeping statistical records, and expressed the opinion that those who took part in such work would earn the gratitude of posterity, and, in all probability, lay the foundation of a new science of natural history.

Professor Hugo de Vries took as his subject, "Hybridising as a means of Pangenetic Infection," which he explained as the transference of particular qualities from one species to another by means of crossing, and gave a few examples, illustrated by specimens.

The Rev. Professor Henslow, M.A., V.M.H., in discoursing on "Hybridisation and its failures," said that any discussion on hybrids necessitated the preliminary enquiry, What is a species? He then passed on to the limitations of genera, and asked whether plants which would cross together could be referred to different genera, especially when separated by only a single character, as Cattleya and Lælia, for example. He also touched upon the question of constitutional affinity, remarking that groups of species from one country had been observed to cross between themselves, but would not ally themselves with others from different countries and climates. Excessive prepotency, non-reciprocity, and partial hybridisation were also mentioned as causes of failure. Perseverence, however, might ultimately be crowned with success, after many failures, and the expert need not despair when he was anxious to secure some special result, as Nature was as likely as not to reward him for his perseverance.

The next paper was by Mr. C. C. Hurst, F.L.S., and was entitled :—

EXPERIMENTS IN HYBRIDISATION AND CROSS-BREEDING.

PREMISING that during the last few years the question of inheritance and variation had been of increasing interest both to students and to practical breeders, the author detailed the results of some experiments carried out by himself. Most breeders had a strong impression that varieties transmitted their qualities to their offspring, hence the care taken to use only the best varieties, and after an examination of a large number of cases of inheritance and non-inheritance in the Orchideæ, he concluded that such was the case to a great extent, especially if fertilised with their own pollen, though exceptions were not rare, especially when the variations were slight, or the parents or their ancestors had been variable. Abnormal sports were generally transmitted wholly or not at all. Specific characters, however, were more certain and more lasting, and could be traced through several generations. Generic characters were still more marked and persistent, and would probably be much more difficult to breed out than either specific or varietal characters. Generic hybrids in the Orchideæ were becoming rather numerous, and had given rise to many anomalies,

foremost among them being seven cases in which the reed-like species of Epidendrum proved to be prepotent when crossed with Cattleya, Lælia and Sophronitis.

Several cases were also mentioned where distinct genera, mostly of distinct tribes, had been crossed together, and in every instance had reproduced the seed-parent almost unmodified, which he thought could be explained by the facts of parthenogenesis, the pollen having no power to hybridise the ovules, yet exerting sufficient influence to stimulate and develope them, parthenogetic seeds being produced which gave rise to plants of the same kind as the seed-parent.

Primary hybrids between the same pair of species had a certain specific likeness, which extended to those obtained by reversing the parentage, though there was often considerable variation, even among seedlings obtained from the same capsule, which arose from a local predominance of the characters of one or the other parent. For example, in one part of the hybrid the form and colour of one parent might prevail, while in another part the other parent might be more apparent; or, it might be the form of one parent and the colour of the other, and this variation the lecturer proposed to call partial prepotency, and suggested that it might possibly throw some light on the question of variation in the offspring of the same parents. Examination of a large number of hybrids in the genus Paphiopedilum showed that the most primary hybrids were fairly intermediate between their parents, and even when one parent appeared to preponderate in certain conspicuous parts a comparison of the less conspicuous parts would show that the balance of power was fairly well maintained.

Secondary hybrids, whether derived from two or more species, presented still wider variation, either due to the increased factors in their pedigree, or to some other cause not yet ascertained, and in order to illustrate this he had an exhibit of 24 plants (not in flower) of Paphiopedilum × Clotho, derived from the same seed-capsule, no two being alike. They were raised by Mr. Reginald Young, of Liverpool, from P. × politum (derived from P. barbatum and P. venustum) crossed with the pollen of P. Boxallii. In each case the hybrid showed distinct traces of both parental and ancestral species, but in different proportions.

Respecting the fertility or sterility of hybrids, the lecturer remarked that nothing had clung so tenaciously in the popular mind as the belief in their absolute infertility, which, however, was a misconception, for the records proved that a large number were at least partially fertile, and absolute sterility was comparatively rare. The phrase "sterility" as used by Darwin simply meant lessened fertility, not absolute barrenness. The diminished fertility of many hybrids was undoubted, but statistics which he had drawn up in the genus Paphiopedilum showed that this was largely

due to the diminished power of the male element, as had previously been noticed by other observers.

The stability of hybrids was a matter of great importance to the practical breeder, for if they did not breed true, or tended to revert to their ancestral species, the breeders' work would be largely in vain, and the economic importance of hybrids would be considerably diminished. From a variety of observations, he believed that the popular idea that hybrids when self-fertilised reverted to one or other of the ancestral species was not founded in fact, and where such reversion had been noticed it may possibly have been due to the hybrid having been fertilised with the pollen of one of the ancestral species.

The vigour of hybrids, and in some cases their precocity in flowering, had often been noticed, but this was probably largely due to out-crossing, as opposed to inbreeding, the one increasing their vigour abnormally, the other reducing it.

The limits of crossing seemed to depend npon very complex causes, and was not always determined absolutely by systematic affinity or natural relationship. For example, species of different genera had been successfully crossed, while all attempts to cross certain allied species in the same genus had only ended in failure. Even constitutional differences was not an absolute barrier, for annuals had been united with perennials, deciduous trees with evergreens, and plants from the tropics with those that reached the arctic circle. When the conditions of life were favourable, fertility seemed to depend on what might be termed the affinity of the germ plasms, and the limits of crossing could only be ascertained by actual experiment. It was encourging to find that with extended experiments the barriers were being pushed wider apart, and the main thing was to perserve, and not be discouraged by failures. In some cases a cross had only been successful after many abortive attempts. The motto should be to try, try again, and above all to keep precise records, both of successes and failures, which might prove to be of inestimable value to science.

The second day's proceedings were held in the Westminster Town Hall, the Rev. Professor Henslow, in the absence of Sir Michael Foster through illness, in the Chair. The opening remarks were brief, and were followed by papers, accompanied by lantern demonstrations by Mr. Herbert J. Webber, on "The work of the United States Department of Agriculture in Plant Hybridisation," and Dr. J. H. Wilson, F.R.S.E., on "Hybrids of Passiflora, Albuca, Ribes, and Begonia." These were very interesting, but occupied a large amount of time, so that less than an hour remained when Mr. R. A. Rolfe, A.L.S., was called upon for his paper on "Hybridisation viewed from the standpoint of systematic botany." The author said that,

the time being so short, and several other papers to follow, he should content himself with a short outline, indicating the nature of the facts he had brought together, and he hoped they would be able to read it in detail hereafter. They would all remember how Dean Herbert's early experiments in hybridisation were received by systematic botanists, under the belief that such experiments would confuse their systems of classification. It was notorious that the limits of species, sections, and even genera had been broken down by the hybridist, hence the want of sympathy was readily understood. Hybrids, however, occurred in nature, and in certain groups were comparatively common, though some systematists still refused to recognize the fact, and had even alluded to those who described them under their true rank, in not very complimentary terms, as "hybrid-mongers."

But these prejudices were gradually being swept away by the irresistible logic of facts, for a considerable number of these supposed natural hybrids had been reconstructed artificially by crossing the supposed parents together, and the lecturer enumerated about a dozen genera in which supposed wild hybrids had been proved. This was chiefly the object of his paper, to collect together the records of such cases. These experiments had brought out several curious facts, one of which was that systematists had repeatedly described these hybrids as species, or as varieties of one or the other of the parents, and to this extent they would have to retrace their steps. In some cases it was found that one polymorphic hybrid was doing duty in the books as several so-called species. Among Orchids, over a dozen natural hybrids had now been raised artificially, and one such he had recognized for the first time at the exhibition yesterday, though as a wild hybrid it had been known for several years. Full particulars would be found in his paper. He hoped to see many more experiments undertaken to clear up the origin of these intermediate and doubtful plants, many of which were the bugbear of systematists. He believed that many were of hybrid origin, and when their true rank was understood, many of the difficulties of classifying them would vanish, for hybrids could not be treated either as species or varieties. Mr. Hurst had said that, instead of the hybridist confusing the systematist, the systematist, by the irony of fate, would have to go to the hybridist to solve some of his difficulties, and, speaking as a systematist himself, he believed Mr. Hurst was right.

A short paper on Hybrid Poppies by M. H. de Vilmorin followed, after which, as several contributors were not present to read their papers in person, the Conference closed with a short general discussion, in which Mr. Burbidge alluded to the great difficulties that had arisen, and still arose, through the Latin names given to garden hybrids. He was in favour of none but English names being applied, but if the old practice was to be

continued, one should adopt some such plan as combining two generic or specific names, or parts of them, the name Lælio-cattleya being a good example. In some cases, sad to relate, classical names had been given to hybrids with the express reason of hiding their origin.

The Conference terminated with a banquet at the Hotel Metropole in the evening, under the presidency of Sir Trevor Lawrence, Bart., at which about 130 were present, including a few ladies. Among the toasts proposed were:—Horticulture, by the Rev. Professor Henslow; Hybridists, by Mr. W. Bateson, F.R.S.; the Royal Horticultural Society, by the Master of the Rolls, Lord Justice Lindley, and the Visitors by Mr. C. J. Shea. During the evening the company present were photographed.

LÆLIA DIGBYANA CAPSULE.

A FINE capsule of Lælia Digbyana has been produced in the collection of W. S. M'Millan, Esq., Ardenholm, Maghull, Lancashire. There was a legend that this species would not yield seed-pods, but Mr. Robertson had no doubt that it would cross with something if one only knew what to use; so by way of experiment he applied the pollinia from a flower each of Cattleya Dowiana, Gaskelliana, Mossiæ, Warneri, and Lælio-cattleya × elegans. The ovary soon began to swell, and the capsule has just opened, 12 months and 17 days after being pollinated, and as some of the seed appears plump and good it has been sown in three different collections, in the hope that some one will succeed in raising the seedlings. Should this fortunately occur, it will be interesting to see what the flowers are like, for the parentage is certainly problematic. The pollen of this flower of L. Digbyana was carefully removed, and used for fertilising Cattleya Dowiana and Gaskelliana, each yielding a seed pod, which is not ripe yet, though all three were done on the same day. There is one previous record of seed-pods being produced by this species (*O. R.*, v. p. 83), the Rev. F. D. Horner having "successfully obtained a couple of seed-pods, at the expense of his plants," but no seedlings were obtained. On the whole it seems preferable to use this striking species as the pollen parent, though it is interesting to know what the capsule is like, and probably the production of seedlings is only a question of time. The capsule is very remarkable in shape, having a beak three times as long as itself. The swollen portion or capsule proper is oblong in shape, and two inches long, while the slender beak measures 6 inches; then comes the shrivelled perianth segments and the column, the latter 1½ inches long. The pedicel is ¾ inch long. When attached to the plant it has a very remarkable appearance.

ORCHIDS IN SEASON.

ODONTOGLOSSUM crispum has for some time made a very beautiful display in our collections, though the majority are now over for the present season. Four very pretty varieties are sent from the collection of R. le Doux, Esq., West Derby, Liverpool, by Mr. Archer. The first has rosy sepals and white petals, with only a few minute brown spots on the lip; a second, with similar ground colour, has a few purple spots on the sepals, and a larger blotch in front of the lip's crest; a third is beautifully suffused throughout with rose purple, with the addition of a spot or two on some of the segments; and a fourth is about intermediate between the first and last. All are typical in shape, and form a very pretty little group.

A very pretty form is sent from the collection of D. M. Grimsdale, Esq., Kent Lodge, Uxbridge. The flower is good in shape, and the petals nicely fringed; the ground colour white, with a few brown spots on the sepals and lip. A large and handsome form of Oncidium crispum is also enclosed—the one known as O. c. grandiflorum,—together with a fine Cattleya Mendelii with pure white sepals and petals and the front of the lip brilliant amethyst, and an exceptionally large flower of C. Warscewiczii.

J. W. Arkle, Esq., West Derby, Liverpool, sends Cattleya Eldorado and C. E. rosea, both very effective at this season; also three good forms of C. Gaskelliana, one being a good dark form, and another having nearly white sepals and petals. Both these species are very variable in colour, and come in usefully when the other species are over.

A very pretty form of Cattleya Mendelii is sent from the collection of R. B. Macbean, Esq., of Lancaster. The front lobe of the lip is marbled with white in the way of C. M. bella, to which it may be referred.

A large and very richly coloured form of Cattleya Mossiæ is sent from the collection of J. F. Laycock, Esq., Wiseton Hall, Bawtry (gr. Mr. Lamb). The combination of deep orange-yellow and rich crimson on the well-expanded lip is superb. Two other striking things are a light form of Lælia tenebrosa, with more white on the lip than is often seen, and a beautiful flower of Odontoglossum crispum, one of fifteen or sixteen on a spike.

A good flower of Lælio-cattleya × Aphrodite is sent from the collection of R. Ashworth, Esq., of Newchurch, Manchester. It is a seedling flowering for the first time, without record of parentage, but the character of the flower leaves no doubt that it was raised from L. purpurata and C. Mendelii.

Orchids are now falling off rapidly in point of numbers for a few weeks, but those which flower now are mostly very fine.

THE HYBRIDIST.

Masdevallia × Pluto.

Another handsome hybrid Masdevallia has been received from Captain Hincks, Richmond, Yorks. It was obtained by crossing M. × Gairiana with the pollen of M. Harryana, and thus has three species in its composition, M. × Gairiana being descended from M. Veitchiana ♀ and M. Davisii ♂. It is most like the seed-parent in shape and size, and the colour is deep-orange in the throat and on the outer halves of the lateral sepals, but intense rich crimson elsewhere, with a good number of those beautiful iridescent violent hairs so characteristic of M. Veitchiana. The petals are white, and the lip violet-purple, with a darker tubercle at the apex, each being half as long as the perianth tube. It is richer in colour than M. × Chelsoni, to which it bears a certain resemblance, and should develop into a very handsome thing.

Odontoglossum × Cooksoni var. Crawshayanum.

Another artificially raised Odontoglossum has reached the flowering stage, and was exhibited by De Barri Crawshay, Esq., at the Hybridisation Conference under the above name. A flower has now been sent, together with a note of its origin. The cross was made in June, 1894, the seed was sown in September of the following year, and the seedling was detected in the following March. It has now produced a spike of eight flowers, which began to expand at the end of June, five years after the cross was made, and less than four after the seed was sown. It is very different from Mr. Cookson's original cross, obtained from O. Hallii × O. crispum Cooksoni, and provisionally named O. × crispo-Hallii (*O.R.*, v., p. 10), having a distinct tinge of lilac in the sepals and petals, especially when young, with rather small, light-brown blotches. In other respects it is fairly intermediate between the two parents. Mr. Crawshay must be congratulated on his initial success, and as he has other seedlings coming on, and plenty of capsules, we hope to have many more from him to record. And we hope that among other things he will not forget to demonstrate by experiment what some of the much discussed secondary hybrid Odontoglossums are like.

Lælio-cattleya × Isabella.

A charming hybrid, believed to have originated from Lælia purpurata Schrœderi and Cattleya Schrœderæ, from the collection of John Leemann, Esq., West Bank House, Heaton Mersey, presumably raised by M. Ch. Maron. It is intermediate in shape, and the colour white tinged with pink, with some purple pencilling and a suffusion of rosy-purple round the cream-yellow disc.—O'Brien in *Gard. Chron.*, July 29, p. 82.

CATTLEYA MENDELII ABNORMAL.

SEVERAL curious abnormal forms of Cattleya Mendelii have been described in these pages, but the one shown in the accompanying figure is both striking in appearance and very beautiful. The two petals are completely transformed into lips, which agree with the normal one both in shape and colour. The flower has just appeared in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, and has been kindly forwarded for inspection, together with the excellent photograph by Miss Wrigley here reproduced. As to the shape and arrangement of the perianth there is nothing to add, as the illustration speaks for itself; the colour also is about typical, being darker in front of the lips than here shown,

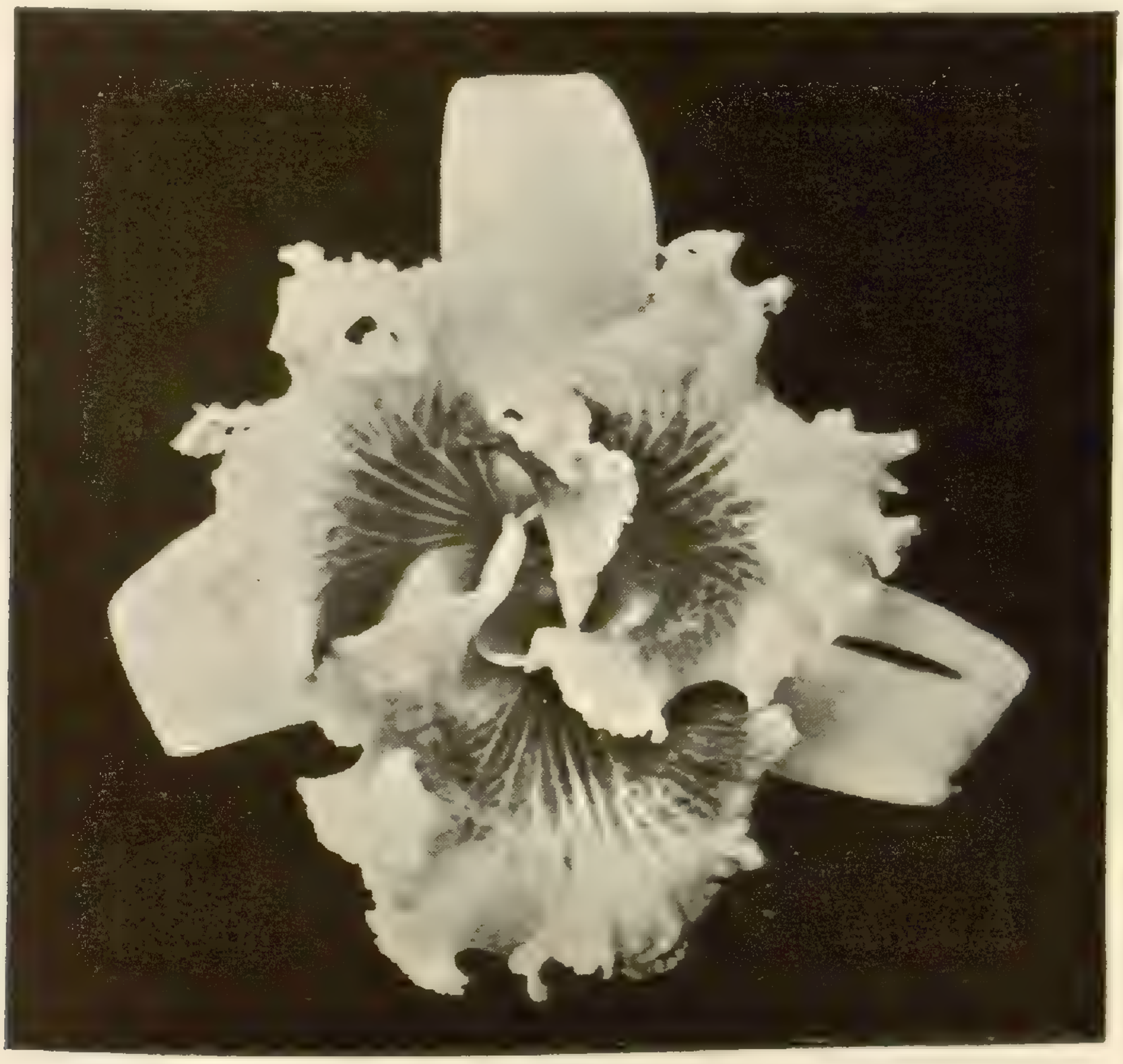

FIG. 14. CATTLEYA MENDELII ABNORMAL.

owing to the well-known fact that purple does not reproduce itself truly in a photograph. The dark line shown in one of the lateral sepals is an orange band, which also is an abnormal character. The column is quite straight, scarcely an inch long, and sharply three-angled to the apex, with three imperfect stigmas, but without any trace of the anther. In fact the column seems to be made up entirely of the three pistils, and the anther to have divided itself between the two petals, completely changing their character, in the same way that two staminodes become united to the median petal to form the normal lip. The plant was imported by Messrs. John Cowan & Co., in March, 1898, and is now

flowering for the first time. Whether the character is constant remains to be proved.

Another abnormal but very striking flower has appeared in the establishment of Mr. C. Young, West Derby, Liverpool. One side is fairly normal, having the usual petal and lateral sepal, but on the other side the two remaining sepals are united nearly to the apex, and the petal is missing, or rather united to the lip, which on this side is larger than usual, and the junction is marked by a clear white stripe. The lip is very richly coloured, and the sepals and petal of the purest white. It is a remarkable plant and will probably be heard of again.

C. M. Janus, described at page 199 of our last volume, still retains its sportive character. Another raceme has been sent by Mr. C. C. Hurst, F.L.S., and although from the same plant it differs from those produced last year. The lowermost of the two flowers consists of a single sepal, on a slender pedicel, with all the other parts entirely suppressed. The upper flower has the three sepals and one petal quite normal in character, but the opposite petal is either absent or confluent with the lip, probably the latter, owing to the somewhat oblique shape and the two halves being differently coloured. There is a purple line down the centre, on either side of which both the yellow and the crimson veining extends, but the latter colour is more developed and much brighter on the side which has a normal petal. The column is slightly oblique, but has one anther, and the stigma is partially abortive. It is a very remarkable plant.

THE CORNING COLLECTION OF ORCHIDS.

In an early volume of this work we gave an account of the fine collection of Orchids brought together by the late Hon. E. Corning (ii, pp. 227-229), and it may be interesting to give a few particulars of their present location, taken from recent issues of *American Gardening*.

The statement that this collection was now in the houses of Mrs. G. B. Wilson (*see O. R.*, vii, p. 201), elicited the following letter from Dr. R. Schiffmann, St. Paul, Minn.:—"In May, 1897, I purchased of Mr. Corning, personally, a large collection of Cattleyas and Lælias, nearly 150 plants, probably the finest specimens of their kind in this country, being mostly in 12-inch pots and over. The collection embraced:—Cattleya labiata vera, C. pallida, C. Mossiæ picta, and C. Warocqueana; C. Bowringiana, monster specimens. C. Trianæ in following varieties:— Bonnyana, Corningii, Corningii superba, delicata, Leeana, Massangeana, Pandora, Pescatorei, Reginæ, rosea, Russelliana, Schrœderæ, superba Warscewiczii, C. gigas Sanderiana, C. Normanni, C. rubra, and C. Warscewiczii. C. Warneri

in variety. Most of these plants bear on the label the name from whom purchased, and contain such names as:—Sander, Veitch, Williams, Low, Bull, Gold, &c. Among my collection of over 2,000 Orchids they are the choicest gems of the lot and the envy of all visitors."—*Amer. Gard.*, June 3, p. 402.

Mrs. G. B. Wilson replied:—"In June of 1897, I bought of the late Mr. Corning a very large number of Orchids, viz.:—Odontoglossums, Odontoglossums natural hybrids, Vandas, Aërides (all his fine varieties), Saccolabiums, Angræcums, hundreds of Cypripediums, Cœlogynes, and Stanhopeas in variety, choice Cymbidiums and Dendrobiums, and 160 plants of named Cattleyas, containing all the names mentioned by Dr. Schiffmann, and many more.

"After I had purchased these Orchids, Mr. Corning wrote me that, having reduced his collection by his sales to me and others, he had decided to retain the remainder, which comprised his choicest plants.

"In the autumn of 1897, shortly after the death of Mr. Corning, I went to Albany and purchased of the late Mrs. Corning the remainder of the collection, almost in its entirety, rejecting only varieties I already had. With this purchase I obtained his collection of rare and unique plants of Phalænopsis, all his Lælio-cattleyas and hybrid Cattleyas, all the white Lælias and Cattleyas, and all his unique plants; in short, I procured the celebrated part of the collection.

"Again, after the death of Mr. Grey, Mr. Corning's faithful gardener, I received from the late Mrs. Corning many gems which were special favourites of Mr. Grey. I have over 3,000 plants which formerly belonged to the Corning collection."—*l.c.*, June 17, p. 429.

THE LATE J. C. SPYERS.

THE current issue of the *Journal of the Kew Guild* contains a portrait of the late Joseph Charles Spyers, together with an "In Memoriam" notice, from which the following is extracted:—"Twenty years ago there were very few representative collections of Orchids, compared with the number there are now, and of the few men who were recognised masters of the art of growing them, Mr. Spyers, Orchid grower to Sir Trevor Lawrence, was preeminent. It is not generally known, even among those who knew Spyers intimately, that he passed through the usual two years' training at Kew, leaving in 1872, and shortly afterwards entering the service of Sir Trevor Lawrence, with whom he remained until his death, which occurred in April, 1883. The following testimony to his character and abilities was communicated to the *Gardeners' Chronicle* by Sir Trevor: 'Many of

your readers will hear with great regret of the death of my Orchid grower, Joseph C. Spyers, at the early age of thirty-two. His loss is much felt by Lady Lawrence and myself, as well as by all in our employment. He was an excellent gardener, gifted with much observation, a retentive memory, and a keen love of his work and plants. He had accumulated a large and varied store of information bearing on horticulture, especially on the cultivation of Orchids. He was a great favourite with all about him. In all things he was upright and honourable and his many good qualities had won for him the esteem and regard of all who knew him. I think I may say that thanks to his skill and knowledge my plants have been as well-grown as so varied and extensive a collection could be. He was at all times, as very many have found, most willing to help others with the results of skill and experience.' He left a widow and four children, for whose benefit the sum of about £250 was subscribed by readers of the *Gardeners' Chronicle*, many of whom had no doubt profited largely by Spyers' numerous contributions to the pages of that journal on the habits and cultural requirements of his favourite plants."

CATASETUM BUNGEROTHII.

This handsome species has recently been flowering freely at the Botanical Gardens, Trinidad, under the care of Mr. J. H. Hart, one of the racemes carrying as many as sixteen flowers. These of course were males. Only one plant yielded female flowers, and two of them were artificially fertilised, the capsules being swelling, so that there is a possibility of seedlings being obtained. The plants are said to have been given to the establishment by a traveller who collected them in Venezuela.

R. A. R.

CALENDAR OF OPERATIONS FOR AUGUST.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperatures and general management of the houses should be continued as advised in preceding Calendars.

There are now many Dendrobiums which have completed their new pseudobulbs, and should be removed to a cool, light, airy house, so as to thoroughly mature and ripen them, though at the same time the supplies of water should not be too suddenly reduced. The whole of the genus with but few exceptions absolutely requires this treatment if the plants are expected to bloom well, and to remain healthy. Both species and hybrids should be so treated, and no fear or apprehension whatever need

be felt with regard to the consequences. Select each plant for removal when the new pseudobulb has produced its terminal leaf; the new bulb will gradually gain in dimensions in the cooler department, and also ripen at the same time. There may be some few kinds which start new growths again from the base, before the first are completed, but such second growths should be disregarded, as they usually take pretty good care of themselves. It is the first growths that are the main ones, and those should be alone studied and catered for. It is when Dendrobes are kept in growing temperatures until very late in the season, in order to finish these second growths, that they are often very seriously injured by becoming weakly, and developing spot in its various forms. A few species, such for instance as D. formosum, should not be removed immediately the new pseudobulb is completed, because the flowers commence to push from the apex at once, and of course the drier and airier conditions would seriously affect them. The same may be said of D. Phalænopsis, D. superbiens, and all others which bloom directly new growth is completed. These latter should be allowed to remain in their genial growing departments, which, however, need not, and should not, be kept so warm as previously when making growths.

A good few of the Cattleyas and Lælias will likewise be near completing their new pseudobulbs. C. Warscewiczii, C. Gaskelliana, C. Rex, C. Warneri, as well as C. Leopoldi and C. granulosa, produce their blooms immediately, and should therefore have a liberal growing treatment accorded until their flowering season is past, but all others which have a short resting period before producing their spikes, are the better for a rather more airy and dry position than those which are still growing. This is not always easy to accomplish for want of the necessary space, but still, if such plants are collected together at one point of the house they may be the better catered for than when mixed up together. It is only for a month or so at this season of the year when this slight difference of treatment is needed. A few of these Cattleyas, for one reason or another, are sure to be late with their new growth, and it is obvious that such are benefited by a liberal treatment to hasten them along, whilst those which are early to form up would be better for less, so as to prevent secondary growth from appearing. C. Lawrenceana is always very late, and for this reason is better now if placed in the warmest department, as also are C. superba and Lueddemanniana, and all three should be liberally supplied with water. Any of the above summer blooming Cattleyas as C. Warscewiczii, C. Gaskelliana, C. Rex, C. Warneri, and C. × Hardyana, passing out of bloom not later than the month of August, may be repotted if such is required, and if done carefully and a chance is given them to become re-established, by keeping them more shady and moist than others not repotted, such work may be accomplished at this season

with first-class results. But if not done during this month I would advise that they be given a thorough good rest and left over until they start to grow early the following spring.

The Mexican Lælias are now growing apace, and flower spikes on L. anceps are fast showing. It is now above all other times that water should be very liberally supplied, especially after a hot day's sun. It is best to get a bucket of tepid water about 4 or 5 o'clock in the afternoon, when the ventilation may be reduced, and with the aid of a syringe give them a thorough good drenching overhead. L. anceps, as before stated, always grows and flowers more satisfactorily when no shading is employed, and the leaves are simply kept from burning by the admission of large quantities of air. There are but few species that will flourish and withstand the same amount of strong suushine. L. majalis is another which delights in all the sunshine possible, and should be suspended close to the ventilator so as to assure ample air. The other Mexican species such as L. autumnalis, and L. albida do not like so much strong sunshine, although both greatly appreciate the atmospheric conditions of the same department, therefore I always find it best to slightly shade the last named species with a coat or whitewash or summer cloud over the glass immediately above them. The same applies to L. furfuracea and L. Gouldiana.

The deciduous Calanthes are now provided with a good quantity of new roots and growing away freely. They usually grow well enough when accommodated with the warmth of an ordinary stove, and they may now be watered occasionally with a weak stimulant, obtained by soaking cow or sheep manure in rain water and straining off. Should the plants, however, appear weakly, and show signs of the foliage spotting, the application of manure will only add fuel to the fire, and should not be used. Debility and black spots are frequently set up by this very act of feeding, because it is overdone. When plants are attacked by this spotting the only possible way to pull them round again is to grow them in small pots and in poor soil, and endeavour to obtain healthy, sound pseudobulbs, which however small will be of greater service the following year than larger diseased bulbs. Thunias will by this time have done blooming, and should be taken to the house where the Dendrobes are resting; as should also the Pleiones, which are now so far advanced in growth as to be able to finish off nicely in such a house, but care should be taken to still supply them with sufficient water, or they will soon become starved and not bloom well during the autum. I think nice pans full of Pleiones in flower are very lovely indeed.

Cœlogyne cristata is now making growth, and if the plants are weakly the manure water mentioned above may be given to these also, that is providing the plants are established with plenty of roots, otherwise more harm than good would result. I am not generally an advocate of manure

for Orchids, and maintain that for the majority it is far better in the end if it is never used. A few, however, such as I have mentioned, may be assisted by its use occasionally, but it should always be applied so largely diluted with water as to render it perfectly harmless.

Amongst the various pests in an Orchid house the common brown Ant is not the least. In some collections they render great havoc amongst the genus Phalænopsis, by piercing the leaves, and causing a sweet watery matter to exude, upon which they feed, and so greatly is it relished by them that they very soon sap away the vitality of the plants, causing them to gradually dwindle away and die. Generally a few of the plants are attacked more severely than the others, and such may quickly be detected by the continual stream of these busy insects to and fro, and also by the edges of the leaves assuming a yellowish hue. Ants are also a great nuisance in many other respects such as carrying dirt and scale about. Orchid seed in its various stages of germination is likewise greatly displaced and ruined by them, and altogether they are anything but desirable, and should be kept in check.

Should there be any defects whatever with the heating apparatus now is the best and most convenient month to have them remedied, and put in thorough working order, for nothing is more vexatious than to have breakdowns or ill-working hot-water arrangements at a time when we dare not let out the fires on account of the cold weather.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE meeting held on June 29th, attracted many choice Orchids, 43 of which were brought under notice of the Committee. The Members present were:—Messrs. G. Shorland Ball (in the chair), Law-Schofield (vice-chairman), Warburton, Leemann, Duckworth, Parker, Holmes, Johnson, Cypher, Dr. Hodgkinson, Dr. Sidebotham, and Mr. Weathers (hon. sec.)

G. W. Law-Schofield, Esq., Rawtenstall, (gr. Mr. Shill), showed Lælio-cattleya × Fire King var. Frances Mary (First-class Certificate), L.-c. × Eudora, L.-c. × E. New Hall Hey variety (A.M.), L.-c. × Canhamiana alba, L.-c. × C. Edward André, Cypripedium × Shillianum (Gowerianum × Rothschildianum) (A.M.), and C. × Gowerianum magnificum (A. M.)

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Dendrobium ochreatum (Cambridgeanum), Lælio-cattleya × Eudora, L.-c. × E. alba, Cattleya × Gaudii (Leopoldi × Loddigesii), C. Mossiæ Fire King, and two good forms of Odontoglossum crispum. He also staged a very fine group of miscellaneous Orchids, amongst which the above and many other striking varieties were included, for which he obtained a Silver Medal.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed a good form of Lælio-cattleya × Hippolyta, L.-c. × Statteræ, a possible natural hybrid from Lælia purpurata, which the Committee wished to see again, and Odontoglossum crispum albens.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed a wonderful variety of Odontoglossum vexillarium called Warburtonianum. The flower was large and with a dark centred labellum much in the way of var. Leopoldi (First-class Certificate).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed the beautiful Lælia tenebrosa Walton Grange variety (First-class Certificate).

F. Baxter, Esq., Morecombe, (gr. Mr. Roberts), showed an interesting group of Odontoglossum crispum flowering for the first time (Vote of Thanks).

Mr. J. Cypher, Cheltenham, showed Cattleya Mendelii J. Leemann, a beautifully grown plant which received an Award of Merit and a Cultural Certificate.

Messrs. F. Sander & Co., St. Albans, showed a very fine form of Cattleya Mendelii, with white sepals and petals, and purple lip, beautifully fringed round the edges (A. M.), C. Mossiæ Sanderæ and Thunia × Brymeriana (Bensoni × Marshalliana).

Messrs. James Veitch & Sons, Chelsea, showed Lælio-cattleya × Eudora, var. eximia, a most striking flower (First-class Certificate), L.-c. × Canhamiana gigantea, L.-c. × C. albida (A. M.), Cattleya Gaskelliana formosa (A. M.), C. Mossiæ Arnoldiana, and other good forms of the species.

Messrs. John Cowan & Co., Gateacre, showed some good Odontoglossum crispum, O. × Wilckeanum, and good forms of Cattleya Mossiæ and Warscewiczii.

Mr. A. J. Keeling, Bingley, showed Masdevallia × Gairiana, a pretty cross between M. Davisii and Veitchana.

Mr. John Robson, Altrincham, showed a remarkably fine plant of Epidendrum prismatocarpum, which obtained both an Award of Merit and a Cultural Certificate.

Messrs. Charlesworth & Co., Bradford, showed a very fine specimen of Cattleya Mossiæ Wageneri, which received a First-class Certificate last year, Lælio-cattleya × Eudora, Lælia × cinnabrosa, Cattleya dolosa, and a beautiful form of C. Mendelii.

The Committee decided to award at the end of the Society's current year Gold, Silver-gilt, and Silver Medals to the members obtaining the highest number of marks for exhibits, on the same lines as the Medals awarded last year.

At the meeting held on July 20th (there was no meeting on July 6th as inadvertently announced by us last month), there was again a good display.

The members present were:—Messrs. Shorland Ball, in the chair, Gratrix, Holmes, Stevens, Johnson, Upjohn, and Weathers (hon. sec.).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a very fine hybrid Cypripedium derived from C. Rothschildianum × selligerum, with a spike of three large blooms. The flower is fairly intermediate between the parents in colour and markings, but most resembles the seed-bearing parent in form and character of growth (A. M.).

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed a very good Lælio-cattleya × Canhamiana alba (A. M.).

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælia xanthina, very pretty and a good variety (A. M.), Lælio-cattleya × elegans Queen Empress, L.-c. × radiata, a pretty and interesting hybrid between L. purpurata and C. nobilior (A. M.), Cattleya Eldorado Wallisii, and Cypripedium Lawrenceanum.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed a splendid Cattleya Gaskelliana alba (F.-c.C.), C. Mossiæ Wageneri (F.-c.C.), Cypripedium callosum Sanderæ, said to have been raised from seed, and resembling the type in all particulars, but with flower rather on the small side, attributable no doubt to the growth being somewhat weak (F.-c. C.), C. × Prince Edward of York (Rothschildianum × Sanderianum), a very pretty hybrid, fairly intermediate between the parents (A. M.), C. × Gowerianum magnificum, C. × I'Ansoni, a very remarkable hybrid from C. Rothschildianum × Morganiæ, with the flower somewhat malformed, for which reason the Committee expressed a desire to see it when next in flower, and Cattleya Warscewiczii (gigas).

The Ven. Archdeacon Rawstone, Blackburn, showed a very fine form of Cattleya Warscewiczii (gigas) with an exceedingly dark lip.

John Richardson, Esq., Altrincham, showed a cut bloom of a very good variety of Sobralia xantholeuca.

Messrs. F. Sander & Co., St. Albans, showed Cypripedium × Premier, a fine hybrid between C. × beechense × Rothschildianum (A.M.), C. × Garbari (Lawrenceanum × Rothschildianum), and C. × Lord Derby (superbiens × Rothschildianum), this latter not in any way comparable with the variety in the collection of Mr. Statter, and shown some time ago by him at a meeting of this Society.

Messrs. Heath & Son, Cheltenham, showed Cypripedium × pendulum (Haynaldianum × Argus Moensii), and the pretty little Dendrobium Fytchianum.

Mr. John Robson, Altrincham, showed Cattleya Gaskelliana pallida.

Mr. A. J. Keeling, Bingley, showed Cypripedium × selligerum majus and C. × Vipani.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

Orchids were well represented at the Drill Hall on June 27th, but owing to the pressure of other things they were unduly crowded, and some difficulty was experienced in finding room for all the exhiblts. No less than four secured the award of a First-class Certificate. The Members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. Ballantine, Chapman, Cobb, Colman, Courtauld, Crawshay, Douglas, Fowler, Gabriel, Haywood, Hill, Little, Outram, Pitt, Pollett, Smee, W. H. White, Winn, Young, and O'Brien (hon. sec.)

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White) sent four very fine Orchids, namely Lælia tenebrosa atrata, a very dark and handsome form, a fine Catasetum fimbriatum, Cattleya Mossiæ Lawrenciæ, a beautiful white form with a little rosy pencilling in front of the yellow disc, and Odontoglossum crispum purpurascens, prettily tinged with rose-purple, and bearing many small purple spots and a few brown blotches. The two latter each received an Award of Merit.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), showed Odontoglossum × Harryano-crispum in excellent condition, Cattleya Mossiæ excellens, a large and handsome form bearing six flowers on one spike (Cultural Commendation), and Eria acervata, with graceful racemes of white flowers (Botanical Certificate),

Mrs. Briggs-Bury, Bank House, Accrington (gr. Mr. Wilkinson), sent three splendid Orchids, namely Lælia tenebrosa Walton Grange variety, Lælio-cattleya × Canhamiana alba, and L.-c. × Dominiana Fire King (purpurata ♀ × Dowiana ♂), the latter having purple-rose sepals and petals, and a very dark and beautifully veined lip (First-class Certificate).

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a small group of choice things, to which a Silver Banksian Medal was given. It contained the beautiful Lælio-cattleya × Thorntoni (Gaskelliana ♀ × Digbyana ♂), a fine example of L.-c. × exoniensis, some good Cattleya Mossiæ, Mendelii, and Odontoglossum crispum, also a beautiful example of O. × excellens, O. cordatum, O. constrictum, &c.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent Odontoglossum crispum "Cherubim" and O. c. "Seraphim," two superb white forms, the latter receiving a First-class Certificate.

Captain T. C. Hincks, Richmond, Yorks. (gr. Mr. Rushton), sent the charming Masdevallia × Rushtoni (ignea ♀ × racemosa ♂), to which an Award of Merit was given. It is more robust than the pollen parent, and the flowers are brilliant orange-scarlet in colour.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), sent Lælia tenebrosa "Victor Warburton," a beautiful variety with lemon-

yellow sepals and petals slightly tinged with purple, and a blush-white lip with some purple markings in front. It received an Award of Merit.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent the handsome orange-scarlet Epidendrum pristis, and the curious Gongora gratulabunda, the latter receiving a Botanical Certificate.

W. A. Bilney, Esq., The Grange, Weybridge (gr. Mr. Whitlock), sent a large and brilliantly-coloured form of Cattleya Gaskelliana.

W. P. Burkinshaw, Esq., Hessle, Hull (gr. Mr. Barker), sent a good form of Odontoglossum crispum, prettily tinged with rose and nicely blotched.

The Right Hon. Lord Burton, Rangemore Hall, Burton-on-Trent (gr. Mr. Bennett), showed Cattleya Warneri and C. Mendelii, the latter a very fine form bearing a spike of five flowers.

Mrs. J. T. Holmes, Beechen Cliff, Bath, sent Cattleya Warscewiczii.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), showed the rare Masdevallia angulata.

Lieut.-Col. Shipway, Grove House, Chiswick (gr. Mr. Walters), staged a small group, containing good Lælia purpurata, Brassia verrucosa, Masdevallia Schlimii, Cypripedium Chamberlainianum, and a beautiful form of Cattleya Mendelii called Mrs. Shipway, which had a rosy crimson feather at the apex of the petals.

Mrs. Temple, Leyswood, Groombridge (gr. Mr. Bristow), sent a good specimen of Cœlogyne Dayana, bearing many of its graceful pendulous racemes.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), showed a good example of Rodriguezia fragrans, bearing several spikes of flowers.

Messrs. James Veitch & Sons, Chelsea, staged a small group of choice things, to which a Silver Banksian Medal was given. It contained some good Lælio-cattleya × Aphrodite, L.-c. × Canhamiana, and others, Cattleya × Juliet (Mossiæ ♀ × labiata ♂), some good C. Mendelii and Gaskelliana, Lælia tenebrosa and purpurata, some good forms of Disa × Veitchii, and other interesting things. A First-class Certificate was given to Lælio-cattleya × Aphrodite eximia (purpurata ♀ × Mendelii ♂), a form with rose-coloured sepals and petals and a richly coloured lip, and an Award of Merit to Cattleya Gaskelliana formosa, a beautiful blush-white variety, with a tinge of rose in front of the light-yellow disc.

Messrs. Hugh Low & Co., Bush Hill Park, also received a Silver Banksian Medal for a fine group, containing two plants of the remarkable Lælia Digbyana, some fine examples of Cattleya Mossiæ, Mendelii, and Odontoglossum crispum, the rare Dendrobium Lowii, a fine plant of Cypripedium callosum Sanderæ, C. Rothschildianum, Odontoglossum Hunnewellianum superbum, and a good form of Cattleya Gaskelliana.

Messrs. Stanley-Mobbs & Ashton, Southgate, received a Bronze Banksian Medal for a good group, including examples of Odontoglossum crispum, good examples of Cattleya Mossiæ and Mendelii, C. Forbesii, Lælia tenebrosa, Lælio-cattleya × Schilleriana, Miltonia vexillaria, Phalænopsis amabilis (grandiflora), the singular Oncidium unicorne, and Cypripedium Curtisii.

Messrs. Charlesworth & Co., Heaton, Bradford, sent a beautiful example of Cattleya Mossiæ Wageneri, bearing numerous flowers (Cultural Commendation), a charming light form of C. Mendelii, C. dolosa, Lælia × cinnabrosa, and a fine form of Lælio-cattleya × Aphrodite.

Messrs. B. S. Williams & Son, Upper Holloway, also staged a fine group, including some good forms of Cattleya Gaskelliana and Mendelii, Lælia purpurata, tenebrosa, and × cinnabrosa, some good examples of Odontoglossum crispum, Epidendrum vitellinum, Thunia Bensonæ and Marshalliana, Oncidium lamelligerum and macranthum, Vanda suavis, Aërides multiflorum, and a number of good Cypripediums.

Orchids at the Hybridisation Conference.

The exhibition in connection with the Hybridisation Conference was held in the Great Vinery, Chiswick, on July 11th, and brought together many interesting exhibits, though the exceessive heat of the building prevented their receiving the attention that they would otherwise have done. It is clear that this building is unsuitable for such an exhibition on a hot summer day. The following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the chair, and Messrs. Ballantine, Bond, Chapman, Crawshay, Douglas, Haywood, Hill, Jaques, Pitt, Pollett, Thomson, Thorne, Watson, White, Young, and O'Brien (hon. sec.).

The President, Sir Trevor Lawrence, Bart, Burford, Dorking (gr. Mr. White), staged a very interesting group, including the splendid Vanda × Miss Joaquim, Epiphronitis × Veitchii, Masdevallia × Chelsoni, M. × Ajax, M. × Hincksiana, M. × Parlatoreana, Cattleya × Breauteana, Disa × kewensis, Odontoglossum × excellens, Cypripedium × selligerum, C. × Elinor, C. × porphyrochlamys Fraseri, C. × Euryale, C. × warnhamense, C. × grande atratum and C. × Dominianum. In many cases one or both parents were also shown.

The Rev. F. Paynter, Stoke Hill, Guildford (gr. Mr. Cooke), sent Lælio-cattleya × Adolphus (L. cinnabarina ♀ × C. Aclandiæ ♂), a very pretty little hybrid, most like the pollen parent in general character, the sepals and petals being Indian yellow spotted with purple, and the lip rose-purple (Award of Merit). He slso sent Cattleya Harrisoniana alba, which received a First-class Certificate.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), staged

a small but showy group, including Lælia × Euterpe, Lælio-cattleya × eximia, L.-c. × Arnoldiana (evidently a form of the preceding), L.-c. × Aphrodite, L.-c. × Canhamiana, Cypripedium × Gertrude Hollington, C. × macropterum, also a fine form of Cattleya Warscewiczii, Lælia tenebrosa gigantea and Cypripedium Stonei candidum, the two latter each receiving an Award of Merit.

Capt. G. W. Law-Schofield, Rawtenstall (gr. Mr. Shill), sent a fine hybrid Cypripedium called C. × Shillianum, to which an Award of Merit was given. It was recorded as a hybrid form C. × Goweri × Rothschildianum, but we should ascribe it to a cross between C. Lawrenceanum and Rothschildianum, and thus a variety of Paphiopedilum × Mahleræ, described at page 271 of our last volume.

De Barri Crawshay, Esq., Rosefield, Sevenoaks, sent Odontoglossum × Cooksoni var. Crawshayanum, an interesting and pretty hybrid raised in the collection, from O. Hallii ♀ and O. crispum lilacinum ♂, to which an Award of Merit was given. Two other good things shown were the spotted O. crispum Crawshayanum, and O. c. Mrs. de B. Crawshay, a fine white form.

The Director, Royal Gardens, Kew, sent a fine pan of Disa × kewensis, raised in the collection.

Walter Cobb, Esq., Dulcote, Tunbridge Wells, showed the handsome Cypripedium × I'Ansoni, and a plant of Catasetum callosum bearing both male and female flowers, a phenomenon of rare occurrence.

Mr. C. C. Hurst, F.L.S., Burbage, Hinchley, exhibited a series of twenty-four plants of Paphiopedilum × Clotho, not in flower, raised in the collection of Reginald Young, Esq., from P. × politum ♀ and P. Boxallii ♂, and showing a great amount of variation in the foliage.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Cattleya × Firebrand (Schilleriana × Lawrenceana), with bright rose-purple sepals and petals, and the front lobe of the lip bright crimson purple.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Humphreys), sent a plant of Microstylis congesta.

M. Ch. Maron, Brunoy, France, sent a group of very fine hybrids, containing Lælio-cattleya × Duvaliana (L. purpurata ♀ × C. Lueddemanniana ♂), a handsome form with rosy-lilac sepals and petals, and the front lobe very dark claret-purple and rather elongated (First-class Certificate), two plants of L.-c. × Martinetii (C. Mossiæ ♀ × L. tenebrosa ♂) with lilac-purple flowers veined with dark-purple on the lip (Award of Merit), three well-flowered plants of L.-c. × radiata (L. purpurata ♀ × C. nobilior ♂), a very charming little hybrid with lilac flowers and darker radiating nerves on the lip, L.-c. × Berthe Fournier (L.-c. × elegans ♀ × C. aurea ♂) L.-c. × Canhamiana, L.-c. × Aphrodite, L.-c. × callistoglossa, L.-c. × Henry Greenwood (L.-c. × Schilleriana ♀ × C. × Hardyana ♂), a pretty

unnamed seedling believed to be from L. purpurata Schrœderi and C. Schrœderæ, Lælia × nigrescens (pumila ♀ × tenebrosa ♂), Cattleya × calummata, and C. × Gaudii (Leopoldi ♀ × Loddigesii ♂), which proves identical with the natural hybrid C. × Patrocinii, St. Leger (*O.R.*, i. p. 343) and thus is specially interesting.

Messrs. James Veitch & Sons, Chelsea, staged a very fine group of hybrids, in many cases with one or both parents. The hybrids included Lælia-cattleya × Aphrodite eximia, × Canhamiana, × Zephyra, × felix, and × Hippolyta, Epiphronitis × Veitchii, Sobralia × Veitchii, Cattleya × Enid, Epidendrum × O'Brienianum, × Endresio-Wallisii, × langleyensis, × radicanti-vitellinum, Disa × Veitchii, × kewensis, × langleyensis, and × Diores var. Clio, the beautiful Phalænopsis × Luedde-violacea, Masdevallia × Gairiana, × Imogen, Odontoglossum × excellens, Spathoglottis × aureo-Vieillardii, Dendrobium × rhodostoma, Cypripedium × vernixium, and several others. They also exhibited Messrs. Charlesworth's interesting Epilælia × Charlesworthii (L. cinnabarina ♀ Epidendrum radicans ♂), to which an Award of Merit was given.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged an interesting group, containing Lælio-cattleya × Arnoldiana, the fine Cypripedium × I'Ansoni (one flower having a double staminode, but both anthers perfect), × Milmanii, × Alice, × T. W. Bond, × Alfred Hollington, macropterum, × De Witt Smith, and × Lawrenceano-Mastersianum, in many cases together with one or both parents. They also sent the remarkable Dendrobium sanguineum, D. barbatulum, and some good forms of Cattleya Gaskelliana, Eldorado and Mendelii.

Messrs. F. Sander & Co., St. Albans, staged several fine hybrid Cypripediums, C. × Premier (× beechense × Rothschildianum), × A. de Lairesse (Curtisii × Rothschildianum), × Comte Adrien de Germiny (× Swanianum × Rothschildianum), × Duchess of Sutherland (× Youngianum × Rothschildianum), × Lady Maple (× Youngianum × Gowerianum), and one called × Garbari (Lawrenceanum × Rothschildianum), evidently a variety of × Mahleræ.

Mr. G. Hansen, Scenic Tract, Berkeley, California, sent a copy of his well-known work, *The Orchid Hybrids*, for which a Vote of Thanks was given.

Some special awards we believe were also recommended, but up to the time of going to press we have not heard any further details.

The meeting on July 25th was held at the Drill Hall, James' Street, Westminster, and showed a great falling off in the number of exhibits, though two of them secured First-class Certificates. The Orchid Committee was represented as follows:—H. J. Veitch, Esq., in the chair, and Messrs. Ballantine, Chapman, Cobb, Colman, Courtauld, Crawshay, Fowler,

Gabriel, Hill, Little, F. W. Moore, Pitt, Young, and O'Brien (hon. sec.).

Sir Trevor Lawrence, Burford, Dorking (gr. Mr. White), showed a fine deep yellow form of Stanhopea Wardii with two black blotches on the hypochil.

Messrs. de Rothschild, Gunnersbury Park (gr. Mr. Reynolds), showed Vanda teres Gunnersbury Park var., a pretty light form to which an Award of Merit was given.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), showed the handsome Dendrobium × formoso-Lowii.

Frau Ida Brandt, Riesbach, Zurich (gr. Mr. Schlecht), sent Phalænopsis Esmeralda antennifera and the rare Bollea Lalindei.

J. G. Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent the handsome Renanthera Storiei.

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), showed cut spikes of Miltonia vexillaria, including the beautiful white var. called Daisy Haywood.

F. A. Rehder, Esq., Gipsy Hill (gr. Mr. Morris), showed Cypripedium × Miss Rehder (Argus × hirsutissimum), a pretty light, profusely spotted hybrid.

Lt.-Col. Shipway, Grove House, Chiswick (gr. Mr. Walters), showed a fine specimen of Cattleya Warscewiczii, and a species of Gongora.

Messrs. James Veitch & Sons, Chelsea, showed a small but choice group to which a Silver Flora Medal was given, containing Lælio-cattleya × callistoglossa ignescens, Cattleya × Atalanta, Disa × Veitchii, Epidendrum × elegantulum, Lælia × Olivia, Cypripedium × Astræa, × Euryale, × orphanum, × Harrisianum superbum, × Alice, × Morganiæ in fine condition, &c. Two splendid plants which each received a First-class Certificate were Disa × Diores var. Clio, and Sophrocattleya × Queen Empress (C. Mossiæ ♀ × Sophronitis grandiflora ♂), the latter being the finest Sophrocattleya which has yet appeared. It is intermediate in size and shape, with the sepals and petals bright rosy-crimson, the latter somewhat veined, and the lip yellow at the base, dotted with purple lines, and the lobes of the lip dark rosy-purple.

Messrs. Hugh Low & Co., Bush Hill Park, sent a few superb Orchids, including Cattleya Leopoldi with a very fine spike of twenty-six richly-coloured flowers, C. Dowiana, C. × Prince of Wales, two fine white forms of C. Eldorado, Dendrobium sanguineum, and the fine yellow Phaius × Ashworthianus.

Messrs. F. Sander & Co., St. Albans, showed half-a-dozen fine hybrids of Cypripedium Rothschildianum, of which one derived from C. callosum was particularly good.

ORCHID PORTRAITS.

CATTLEYA MENDELII PERFECTION. — *Gard. Mag.*, July 1, p. 389, with fig.

CYMBIDIUM TRACYANUM.—*Garden*, July 15, p. 42, t. 1231.

CYPRIPEDIUM CALLOSUM SANDERÆ.—*Journ. of Hort.*, June 1, p. 450, fig. 99.

CYPRIPEDIUM × VIPANI, CORNING'S VARIETY.—*Amer. Gard.*, June 17, pp. 428, 429, fig. 111.

DENDROBIUM × MICANS.—*Gard. Mag.*, July 15, p. 429, with fig.

EPIDENDRUM WALLISII.—*Gard. Mag.*, July 22, p. 746, with fig.

LÆLIA PURPURATA MRS. R. I. MEASURES.—*Garden*, July 15, p. 46, with fig.

LÆLIO-CATTLEYA × APHRODITE RUTH.—*Journ. of Hort.*, July 13, p. 34, fig. 9.

LÆLIO-CATTLEYA × DIGBYANO-MOSSIÆ.—*Gard. World*, July 15, p. 729, with fig.

LÆLIO-CATTLEYA × DIGBYANO-TRIANÆ. — *Journ. of Hort.*, July 13, p. 35, fig. 10.

ODONTOGLOSSUM × ADRIANÆ ASHWORTHIANUM. — *Journ. of Hort.*, June 29, pp. 534, 535, fig. 120.

ODONTOGLOSSUM × CORADINEI MIRABILE.—*Journ. of Hort.*, June 1, pp. 447, 450, fig. 98.

ODONTOGLOSSUM CRISPUM AUGUSTUM. — *Journ. of Hort.*, June 29, pp. 534, 535, fig. 121.

ODONTOGLOSSUM CRISPUM, VAR. MADAME METDEPENNINGEN. — *Rev. Hort. Belge*, July, p. 157, with plate. A form of O. × Wilckeanum.

ODONTOGLOSSUM × HARRYANO-CRISPUM.—*Journ. of Hort.*, July 6, p. 3, fig. 1; *Gard. Mag.*, July 15, p. 431, with fig.; *Gard. Chron.*, July 22, p. 66, 67, fig. 29.

PHAIUS × PHŒBE.—*Journ. of Hort.*, June 1, pp. 445, 450, fig. 97.

PHALÆNOPSIS × LUEDDE-VIOLACEA.—*Journ, of Hort.*, July 13, p. 37, fig. 11; *Gard. World*, July 22, p. 746, with fig.

ZYGOCOLAX × VEITCHII.—*Journ. of Hort.*, July 13, p. 27, fig. 6.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we ***are not always able to deal with them satisfactorily.****)*

J.H.L., Colesborne.—Eria mysorensis and Geodorum citrinum.

E.O.O., Mass.—We do not know how Lælia Cowanii differs from L. caulescens, Lindl. Can you not ascertain when and where Cattleya × Dijanceana appeared?

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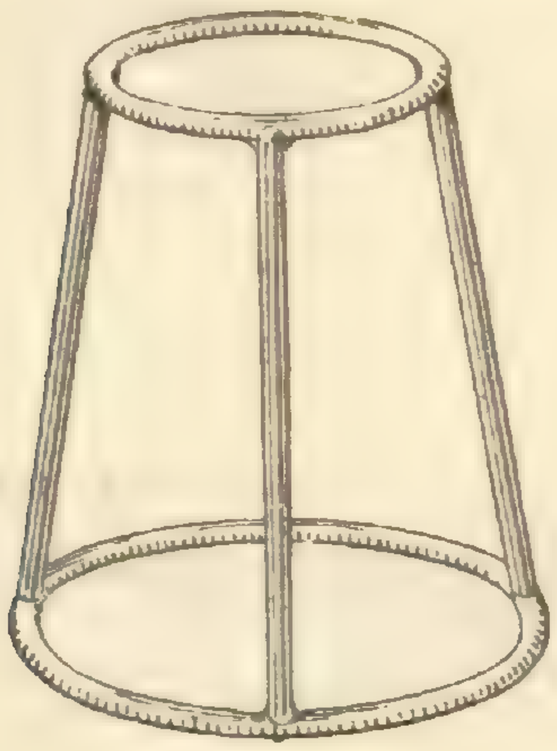

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A MEETING of the COMMITTEE, for the purpose of Adjudicating upon the Orchids submitted, will take place on THURSDAY, August 17th 1899, at 11 o'clock prompt. Open to members from 1 o'clock to 3 o'clock p.m.

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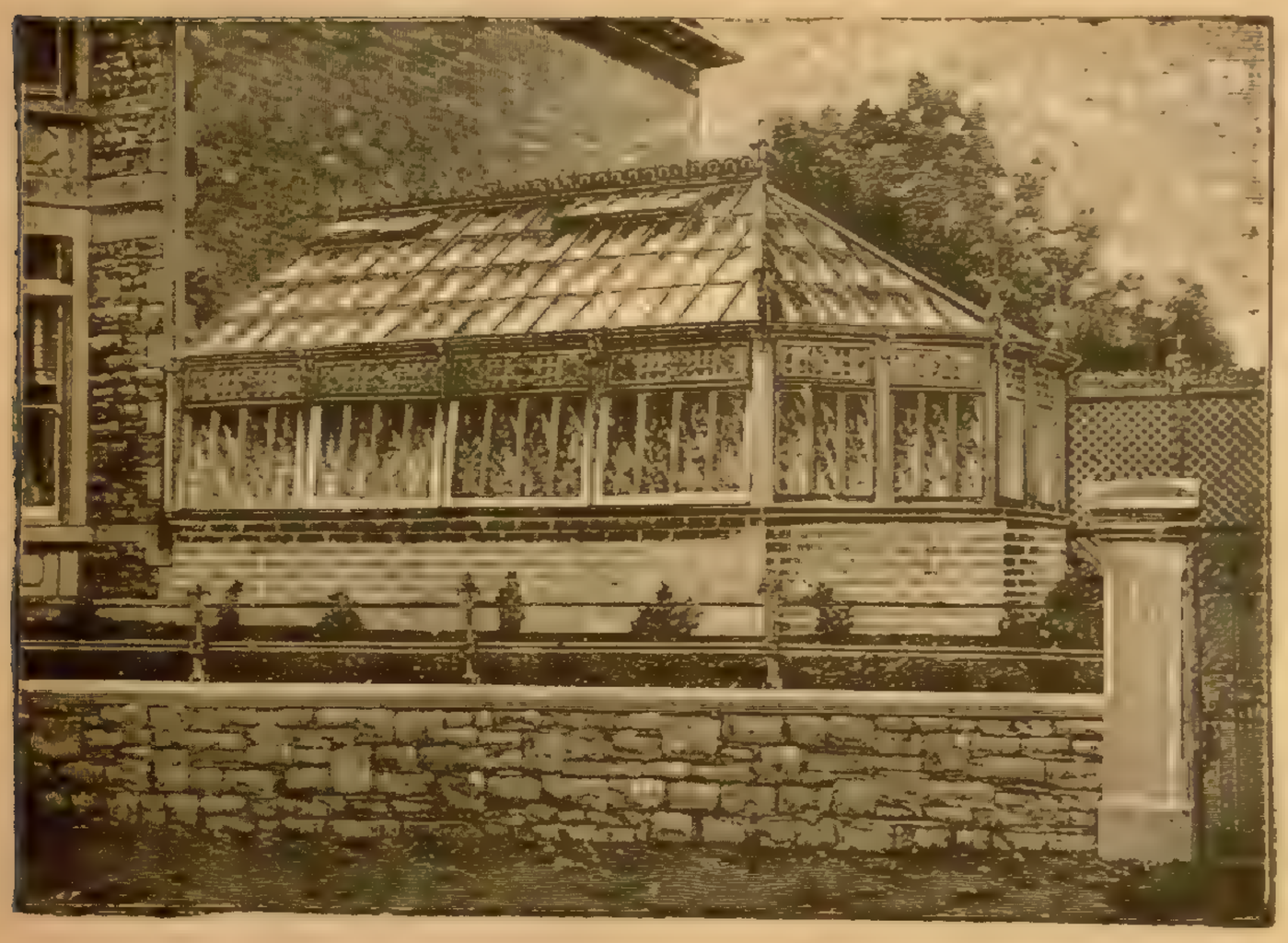

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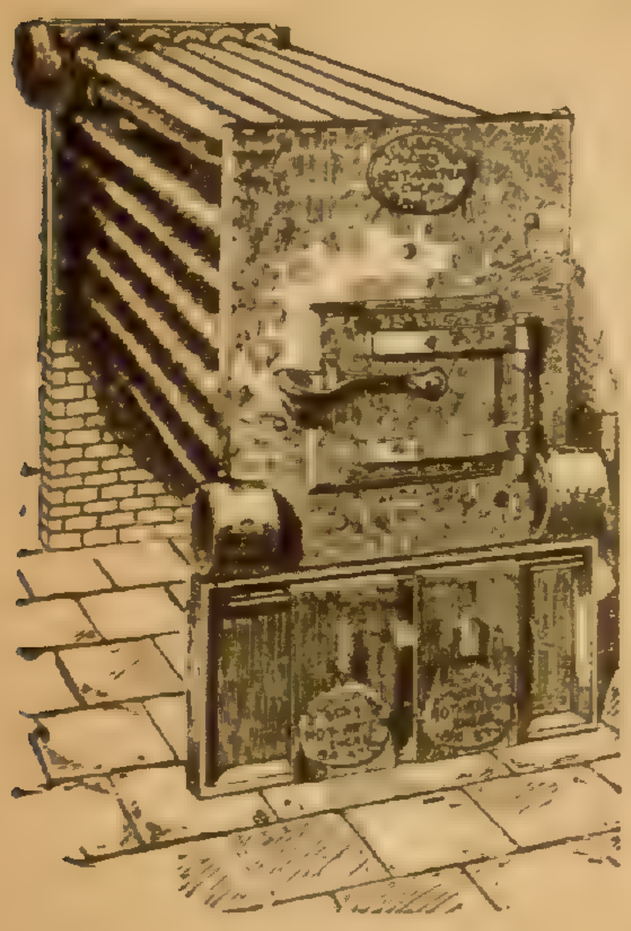

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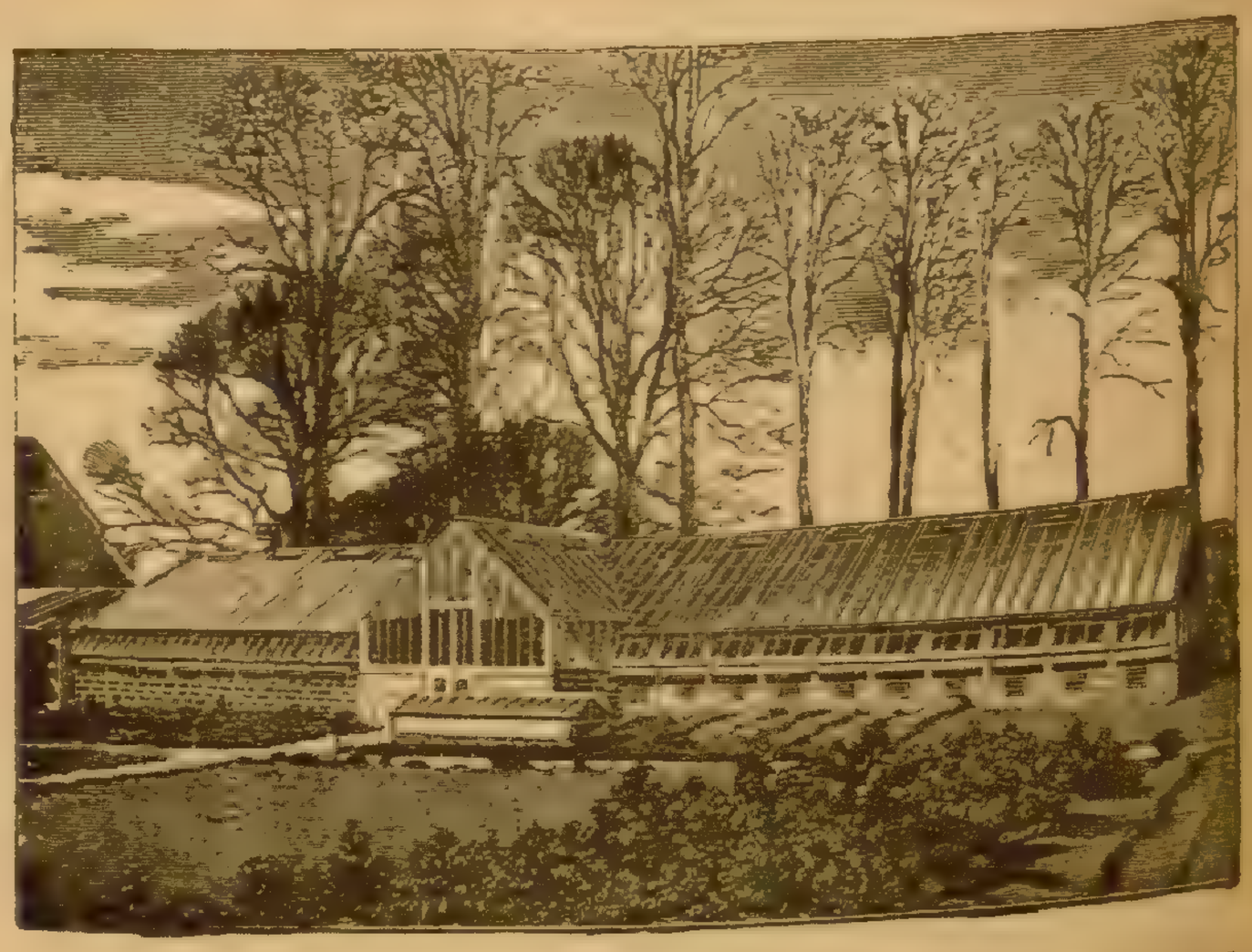

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VOL. VII.] SEPTEMBER, 1899. [No. 81.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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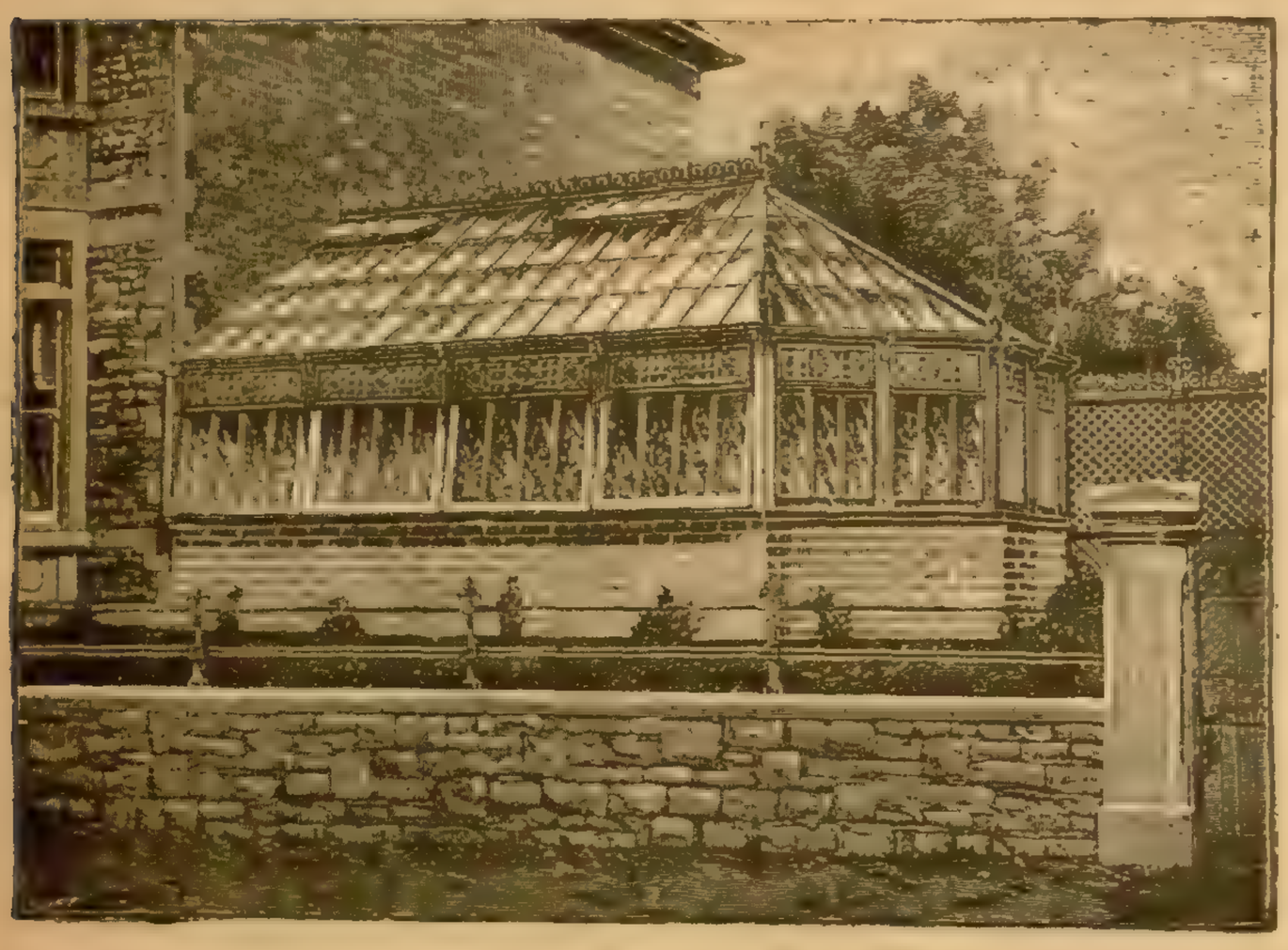

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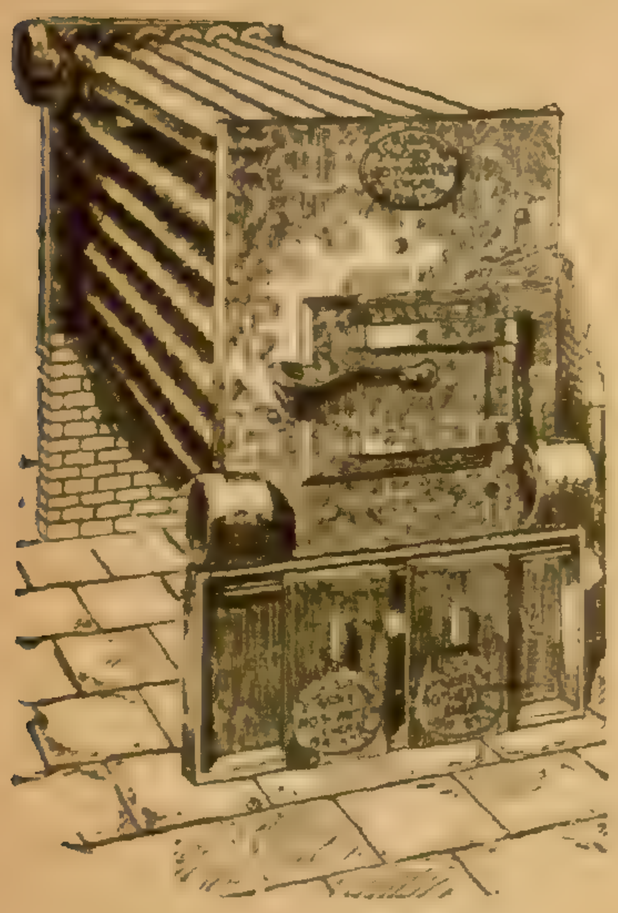

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NOTES.

THERE will be two meetings of the Royal Horticultural Society at the Drill Hall, James Street, Westminster, during September, on the 12th and 26th, when the Orchid Committee will meet at the usual hour, twelve o'clock noon.

The Manchester and North of England Orchid Society will hold two meetings, at the Coal Exchange, Manchester, during the month, on the 7th and 21st. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

In continuation of the series of Distinguished Hybridists, the *Gardeners' Chronicle* has published some additional portraits, including that of Norman C. Cookson, Esq., on August 12th (p. 130), and M. Ch. Vuylsteke on August 26th (p. 163). The excellent work of both these gentlemen among Orchids will be familiar to our readers.

An illustration, from a photograph, of the interior of an Odontoglossum house at Walton Grange, Stone, the residence of W. Thompson, Esq., is given in the *Journal of Horticulture* for August 17th (p. 141, fig. 31).

Flowers of the remarkable Cœlogyne Micholitzii are sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young. The species is allied to C. speciosa, but the flowers are about a fourth smaller, and are borne on slender arching scapes about 10 inches long. The sepals and petals are yellowish white, and the lip shining orange-brown with a pair of darker blotches at the base. The keels are broad and obtuse, and as the disc is very fleshy it has the appearance of being channelled rather than keeled.

UNRECORDED DISCOVERY OF EULOPHIELLA PEETERSIANA.

THE most striking and interesting Orchid which appeared during 1896 was undoubtedly the remarkable Eulophiella Peetersiana, a member of a genus founded by Mr. R. A. Rolfe on the now well-known Eulophiella Elisabethæ, first introduced by L'Horticulture Internationale, Brussels.

M. Mocquerys, who was previously a collector for M. Godefroy Lebeuf, of Paris, made an agreement with M. Peeters, of Brussels, and left Europe for Sainte Marie de Madagascar without anticipating the discovery of such a magnificent plant as the one now under notice, and it is surprising what a number of collectors have for the last two centuries passed and stayed for a certain time in these regions without having previously noticed the most common plant of the Isle of Nattes, at the south of Sainte Marie. On this small isle, however, Mocquerys discovered Eulophiella Peetersiana, and another species which is supposed to be yet undetermined, bearing rather large white flowers, and on the coast of Madagascar just opposite Sainte Marie he found again E. Elisabethæ—another definite and interesting fact.

A friend of mine who is well known in the Orchid world, thought of sending a collector out to explore completely the Isle of Nattes, and before finally arranging matters it occurred to him to look through some of the collections of the Jardin des Plantes Herbarium at Paris, when he found, not without great surprise, a well preserved specimen of Eulophiella Peetersiana, which had laid in the Herbarium for the last fifty years, and was still unidentified. The exact locality is indicated, so that there can be no doubt about the facts. This clearly shows the importance of preserving collections of dried specimens, though they should not remain for half-a-century without being looked over to see what they contain.

A.E.P.G.

SOPHROCATTLEYA × QUEEN EMPRESS.

A FLOWER of this superb hybrid, which received a First-class Certificate from the Royal Horticultural Society on July 25th last, has been sent by Messrs. James Veitch & Sons, with a brief note of its origin, showing that it was obtained by crossing Cattleya Mossiæ with the pollen of Sophronitis grandiflora, and that the seed was sown as long ago as 1884. It combines well the characters of the two parents, having the more expanded sepals and petals of the Sophronitis parent, but approaching the Cattleya in its more convolute lip. The sepals and petals are bright rosy crimson, the latter being somewhat veined, and the lip yellow at the base, dotted with purple lines, and the lobes dark rosy purple. It is very beautiful, and we hope that it will prove to have a good constitution.

DIES ORCHIDIANÆ.

SINCE my last notes were written the list of Awards at the recent Hybridisation Conference has been issued, and I must confess my disappointment on finding that the two Veitch Memorial Medals offered for the two best new Orchids intentionally raised by cross-breeding or hybridisation—one in Great Britain, the other abroad—and never previously exhibited, were not awarded. Nothing appears to have been exhibited, either from home or foreign raisers, which fulfilled the conditions laid down. And yet Lælio-cattleya × Duvaliana was thought worthy of a First-class Certificate, and Awards of Merit were bestowed on L.-c. × Martinetii, Odontoglossum × Cooksoni Crawshayanum, Epilælia × Charlesworthii, and Cypripedium × Shillianum. Whether all of these had previously been exhibited I cannot say, but I find the following note in the *Gardeners' Chronicle* report of the exhibition (p. 58) :—"Two plants were entered for the Veitch Memorial Gold Medal for the best hybrid Orchid not previously shown, the exhibits being the beautiful Cypripedium × Shillianum [mis-spelt "Schillerianum"] (Gowerianum × Rothchildianum), sent by Capt. G. W. Law-Schofield (gr. Mr. Shill) ; and Odontoglossum × crispo-Hallii var. Crawshayanum, sent by De B. Crawshay, Esq. The Cypripedium was adjudged the Medal, but ultimately it was withdrawn, both plants having been previously exhibited, and therefore not eligible." So much for home exhibits, and of foreign ones there appears to have been no entry.

This seems to dispose of the matter, but all the same the result seems disappointing. The disqualification against Cypripedium × Shillianum seems to have been that it was exhibited at the previous meeting of the Manchester Orchid Society, but I was not aware that the Odontoglossum had been previously shown. It may, however, be that Mr. Cookson's original hybrid between the same two species prevents the term "new" being applied to the present one, though as varieties the two are very distinct, which is more than can be said of a good many others. Whether the handsome Lælio-cattleya × Duvaliana was disqualified in the same way I do not know, or whether the fact that it had not been "entered" for the award operated against it. But in such a case no special entry ought to be required. The necessary formalities admitting the plant to the exhibition having been complied with, the plant ought to have been eligible for any award to which its merits entitled it, and unless it had been previously exhibited I do not see why the Veitch Memorial Medal for the best foreign hybrid was not awarded to it. Then there was a most beautiful hybrid between Lælia purpurata and Cattleya Schrœderæ—since

named Lælio-cattleya × Isabella—which ought to have been eligible under the stipulated conditions.

All things considered, the competition seems to have been a bit of a fiasco, like that for the Special prizes offered by the Society in 1896 for New Plants, to which I have previously alluded (*supra*, v. p. 135), and for much the same reasons. In fact, the failure in both cases arose more from the nature of the conditions imposed than from the want of exhibits which would have been eligible under different rules, and this points to the necessity for some amendment. I would therefore suggest that in any future competition of this kind the words "never previously exhibited" should read "not previously certificated by the Society"; also that the awards should be open to any plant exhibited at the meeting without special entry. It seems absurd to disqualify a meritorious exhibit at its first time of flowering simply because it was shown a few days earlier, let us say at Paris, Ghent, or Manchester. Nor do I see why a plant should be precluded from competing when strong enough to show its true character, simply because it was exhibited last year, when its first flower was produced. It is well-known that hybrids are often shown at their first time of flowering, when obviously undeveloped, in order to get the name recorded, and thus prevent someone else who flowers it later from getting the credit of first raising it, which is perfectly legitimate. The result may be that it is passed over, or the Committee may express a wish to see it again when better developed, and to disqualify such a plant is absurd. The exclusion of plants previously certificated by the Society would suffice to exclude well-known old plants from the competition, and this should be all that is necessary.

The rule requiring a special entry is one which I cannot understand, and defeats the object aimed at, as has previously been pointed out. Concerning the special prizes offered in 1896, the Council had to report: "Owing to insufficiency of competition (in several of the classes there were absolutely no entries, and in others only one or two at most) the judges appointed to deal with these classes were only able to award the medal in one class." And yet in this very class there was no lack of exhibits which were thought worthy of awards. On the contrary, they were too numerous, for in the Council's Report for 1896 we find the following:—"The Council must again express their opinion that there still appears to be a tendency to multiply unduly the awards recommended, and they earnestly request the several Committees to consider seriously whether there is not a real danger of impairing the value of these distinctions by such increase of their number" (*Report of the Council*, p. 3). As a matter of fact 36 First-class Certificates and 100 Awards of Merit had

been given (*l.c.*, p. 2), yet out of all this lot only one plant succeeded in gaining one of a number of Medals specially offered, "with the object of encouraging individual effort, &c.," and of which the judging was to be "by points," which were to be "duly kept and recorded," and "the winner . . . announced at the end of the season." Something has obviously gone wrong, for the two stories do not hang together anyhow.

The difficulty is clear, and the remedy simple. Abolish the necessity for a special entry. The fact that a plant has gone through whatever formality is necessary to allow it to be exhibited and brought before the Committee should be sufficient to enable it to take part in the competition. Under present conditions the Medals might have gone to inferior exhibits because the best, though present, had not been specially entered. Happily we have been spared that indignity, but all the same the offer of these special prizes, both on the earlier and recent occasions, has been something like a farce, and having shown the cause and suggested a remedy, I am content to leave the matter, at all events for the present.

The following explains itself:—"Dear Argus, Here are a couple of interesting snippings which you may like to have. I need hardly say that they are taken from a recent Sale Catalogue:—

'CYPRIPEDIUM CHARLESWORTHII.

'A beautiful dwarf-habited, large-flowered Cypripedium, noticeable for its large, broad, rose-coloured dorsal. . . . Grand forms are known with huge dorsal sepals often nearly five inches across, and almost purple in colouring.'

'LÆLIA JONGHEANA.

'The brilliant ameythyst and golden yellow flowers are large, and are borne two to five on stout spikes.'

"I am on the look out for these plants." And I hope you will find them.

ARGUS.

LÆLIA JONGHEANA.

THE habitat of this fine Lælia, which has recently been re-introduced to cultivation (*ante*, p. 173), is, according to Mr. E. Kromer (quoted in a note in *The Garden* for August 5th), Central Brazil, in the district of Minas Geraes, where it grows on trees, at an elevation of over 2,000 feet above sea-level. It should succeed under similar treatment to that given to Lælia flava, except that it should have a lighter and more exposed position, where it will receive the maximum of light. Its normal flowering time is considered to be January and February.

ORCHIDS AT BURFORD.

One of the features of a large and varied collection is that there is always something of interest in flower, even at the dullest season of the year, and this was specially apparent in looking through the fine collection of Sir Trevor Lawrence, at Burford, Dorking, some few days ago. Here may be seen many interesting rarities which are seldom met with elsewhere, and as the well-known showy species and hybrids are equally well represented there is both great variety and a constant succession of flowers.

One of the first plants noted the other day was the new Stanhopea Rodigasiana, which is remarkable for the almost hatchet-shaped horns of the lip, which with other anomalies almost constitute it a new section of the genus. Dendrobium Huttoni was also interesting, for, although one parent of the well-known D. × rhodostoma, we do not remember to have met with it before. The beautiful violet-blue D. Victoria-Regina was also flowering freely from bulbs made in this country—those previously produced were on imported ones—and being borne with the leaves were very effective. Two other species in flower were D. aqueum and D. gracile, the last being very rare. Cycnoches maculatum was bearing a fine spike of male flowers, as was also the remarkable Catasetum tabulare. By the way, we believe the other sex of both these species is still unknown.

Polystachya Lawrenceana is a pretty little plant, its rosy purple lip contrasting effectively with the green of the sepals and petals. P. odorata bears panicles of yellowish green flowers. Among Maxillarias were noted M. fucata, Hubschii, and molitor, three rare and pretty species of the grandiflora group, and among Oncidiums the handsome O. spilopterum, a fine example of O. trulliferum, O. dasytyle, O. × præstans, good specimens of O. ornithorhynchum and incurvum, O. cristatum, O. macranthum, and two or three others, this genus being very well represented. Two good plants of Odontoglossum aspidorhinum were flowering very freely, one bearing as many as twenty spikes, besides which O. Uroskinneri and the very distinct variety album were in bloom, together with a curious green form of O. ramosissum, which also differs much in habit from the white, purple-spotted form, and it seems possible that more than one species is included under this name. Miltonia Schrœderiana, a handsome species from Costa Rica, was also finely in flower.

Among Epidendrums may be mentioned the handsome E. fulgens, E. × Berkeleyi (Stamfordianum × O'Brienianum), a very interesting hybrid described at page 10 of the present volume, the curious little E.

Matthewsii, belonging to the Nanodes group, E. ochraceum, and a few others. The handsome Lælio-cattleya × Henry Greenwood, and Lælia Boothiana, must also be mentioned, together with Acineta Barkeri, a fine Phalænopsis amabilis, the rare Sobralia Liliastrum, a fine plant of Platyclinis filiformis wreathed in spikes, Nephelaphyllum pulchrum, Habenaria rhodochila, and Microstylis Scottii. In conclusion we may mention some good clumps of Promenæa xanthina and stapelioides intermixed, as imported, which were flowering very freely in the Masdevallia house, also the rare Masdevallia ventricularia var. longicaudata, and some good plants of both the purple and buff-coloured varieties of M. infracta flowering very freely.

We have not made any attempt to indicate the commoner species seen in flower, but may briefly mention that they included the beautiful Cypripedium × Morganiæ, and various others, some of them raised in the collection.

Sir Trevor takes a great personal interest in his plants; indeed we found him busy among them, and we are indebted to him for pointing out many other rare or choice things not now in flower, besides the above. All have a history, and the flowering of several is awaited with interest. A large miscellaneous collection of this kind entails much care and watchfulness to keep everything in health, but it is managed with conspicuous ability by Sir Trevor's clever Orchid grower, Mr. White, who could doubtless give some interesting details about his struggles with some of the intractable subjects which must inevitably form part of such a collection.

ORCHIDS AT OAKFIELD, MORECAMBE.

A SPLENDID collection of Orchids has sprung into existence here with amazing rapidity, as on our recent visit we were most agreeably surprised to see with what leaps and bounds progress had been made. Oakfield is the very pleasant residence of Thomas Baxter, Esq., who is evidently no second-rate enthusiast, but a whole-hearted admirer of the "beautiful and aristocratic Orchid." The houses are nicely and conveniently situated, forming a half-square, a range of lean-to's forming one side, and a range of three-quarter spans the other, which are connected at one end by a spacious and handsomely-built span-roof house, and a rockwork fernery. The whole of the houses are mainly devoted to Orchids. The first department of the lean-to ranges is devoted to East Indian and other warm-growing kinds, and we there noted in splendid health and vigour many well-known old favourites, such as Peristeria elata, Stanhopeas in variety, a fine batch of Calanthe × Veitchii, grand plants of Dendrobium suavissimum,

D. Wardianum and D. Phalænopsis, Miltonia spectabilis Moreliana, doing well on blocks, Cypripedium bellatulum and C. Lawrenceanun, fine plants; also Phalænopsis Schilleriana and P. grandiflora, which appear to like the situation.

The whole of the remaining departments forming this range, three in number, pricipally contain cool-growing Orchids, Odontoglossum crispum being an especial favourite here; and when we say that some five thousand crispums alone are accommodated, in various stages of growth from newly-imported to established plants, some idea may be gleaned of the magnitude of the collection and the space required. Some very fine crispums were in bloom, many of which were A 1. in point of form and substance, and a number of highly-spotted and blotched varieties were also noted amongst them. In these houses were also grand examples of Oncidium crispum, O. sarcodes, O. macranthum, O. tigrinum, Odontoglossum citrosmum, O. Edwardii, O. Hallii, a fine batch of O. grande and O. Insleayi, O. Rossii in great variety, and many others. They are arranged on step-like stages, running almost parallel with the roof glass, so that each plant can be distinctly seen and receive its due share of light and air.

Passing from this range we enter the connecting large, span-roofed house, which is given up to the culture of Lælias and Cattleyas, and Intermediate house species generally. Here are a fine lot of Cattleyas of the labiata section, including C. Trianæ, C. Mendelii, C. Mossiæ, C. Gaskelliana, and C. Warscewiczii (gigas). Also such others as C. Harrisoniana, C. Loddigesii, C. Schilleriana, C. granulosa and its variety Schofieldiana, C. Bowringiana, grand plants of Lælia purpurata, L. tenebrosa and L. Digbyana, Lælio-cattleya × Schilleriana, &c. This is a model Orchid house, having its centre and side stages, and judging from the appearance of the plants well suited to their requirements.

The next department is the rock fernery before mentioned, but room here and there is found for Orchids, without detriment to the ferns. An extraordinary large specimen of Cymbidium Lowianum in robust health here finds a home, and a nice plant of C. Tracyanum was also noted; besides which we observed a good batch of Cœlogyne cristata, and a grand plant of C. Dayana.

We now enter the range of three-quarter-span roofed houses, and although these are not entirely given up to the cultivation of Orchids, many species may there be found, including a fine lot of Cypripediums, Cœlogynes, Cymbidiums, Mexican Lælias, also a fine specimen of L. Cowanii, with Oncidiums and Dendrobiums in great variety.

Much credit is due to Mr. Baxter's energetic gardener, Mr. R. Roberts, for his successful management of this large and promising collection.

H. A. B.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHDIEES.

THE March and April numbers of the *Dictionnaire Iconographique des Orchidées* of Messrs. Cogniaux and Goossens reached us early in August, and among the plates we notice Disa × Veitchii, Stauropsis gigantea, Cymbidium pendulum, Masdevallia elephanticeps, Odontoglossum Edwardii, Pescatorea Lehmanni, and Warscewiczella discolor, also six additional Cypripediums. The plant figured as *Zygopetalum* Mackayi, however, is not the original one of that name (*Bot. Mag.*, t. 2748), but evidently a form of *Z.* crinitum, Lodd.

In the accompanying *Chronique Orchidéene* (p. 219) M. Cogniaux expresses great surprise at a remark made at p. 161 of our June issue, that "Cypripedium exul, O'Brien should be C. exul, Rolfe," especially as the former name was "given by Mr. Rolfe in the *Lindenia*." M. Cogniaux is evidently not aware that the name as given in *Lindenia* was a hurried alteration in the proof, and after all was incorrect. He evidently overlooked the history of the question at pp. 269, 270 of our fourth volume, or he would have cited it. The facts are briefly that on April 12, 1892, it was exhibited at a meeting of the R.H.S. under the name of Cypripedium insigne var. siamense, the correctness of which was doubted by the Orchid Committee, who referred it to Kew for determination. On April 19th it was again exhibited as C. exul, Rolfe (syn. C. insigne var. exul, Ridl.), and the facts were recorded in the *Journal of Horticulture*, and two days later in the *Gardeners' Chronicle*, but in the latter the author of the name was omitted, which fact is responsible for all the confusion which has arisen.

At the same time M. Cogniaux expresses himself as curious to know why the plates in the *Dictionnaire* are not deemed worthy of a place in our list of Orchid Portraits. The question has already been answered. If M. Cogniaux will turn to page 67 of our March issue he will find an explanation, which it seems unnecessary to repeat. The remark seems to insinuate that we show a want of appreciation of the work, which is a great mistake, and this is the fifth time during the present year that we have called attention to it. We find it most useful, and the plates attain a degree of accuracy which is sadly lacking in some figures which we know. It may seem ungracious to call attention to mistakes which have appeared in it, but we have done it solely in the interests of accuracy, and believe that any impartial observer would admit it to be a service to horticulture, if not to the work itself. Already new sheets of text have been issued to replace erroneous ones as a result of our remarks, and, to be candid, we think this **has been the weakest point in the work.**

The May and June numbers have arrived just as we are going to press. The former contains, among others, Aërides Houlletianum, Cymbidium tigrinum, Dendrobium cymbidioides and thyrsiflorum, Eulophiella

Elisabethæ, Maxillaria nigrescens, Mormodes Lawrenceanum, and Phalænopsis Denisiana, Cogn., which is synonymous with P. Kunstleri, Hook. f. The June number is devoted entirely to Cypripedium, and contains C. Appletonianum and Mastersianum, two forms each of C. Boxallii and Charlesworthii, together with eight hybrids. The habitat of C. Charlesworthii is given as the Arracan district, but this habitat was long ago corrected. It is a native of the Shan States, as recorded by the discoverer, Mr. R. Moore, in an interesting article in these pages (iii. pp. 169-172).

USE OF ORCHID-BARK FOR ORNAMENT.

THE following additional information respecting the use of Orchid-bark appears in the July-August number of the *Kew Bulletin* (pp. 138-139):—

"In some 'Notes on Orchids in the Jungle' (*Orchid Review*, 1893, vol. i., p. 82), the late Major-General E. S. Berkeley described the use of the 'fibre' of Dendrobium secundum for making the string or 'connector' with which the aborigines of N. Andaman attach the head to the shaft of their arrows. The employment of Orchids for any useful purpose is rare, and the present seemed so exceptional that application was made to Mr. E. H. Man, C.S.I., deputy-superintendent of the Andamans, for specimens illustrating it for the Kew Museum. Mr. Man very kindly forwarded to Kew an interesting letter (dated December 6, 1893) from Mr. M. V. Portman, officer-in-charge of the Andamanese, which corrected General Berkeley's account in many particulars:—'The connector attaching the head to the shaft of the 'Ela,' the arrow used for shooting pig, is made of the fibre of Anodendron paniculatum ('Yolba'), and Orchid bark is never used in its manufacture.

'Orchid bark (Ra) is, however, worked into the yolba fibre binding the head of the fish arrow (Tàulbod), and also in the head of the Ela, but as an ornament only, owing to its bright yellow colour. It is prepared as follows: The Orchid is roasted over embers, until the bark becomes of a straw colour, and the bark is then stripped off by a shell-knife. It is very brittle, owing to the baking it has received, has no toughness at any time, and is absolutely valueless commercially.'

Mr. Man has been good enough to send to Kew an interesting series of objects consisting of bracelets, armlets, a waist-belt, and head ornament, made of shells fastened to a coarse cord which is covered with the bright yellow skin or bark exactly corresponding with that which covers the pseudobulbs of Dendrobium secundum.

In a farther letter, dated June 18, 1894, Mr. M. V. Portman says:—'The Ongés of the Little Andaman Island make more use of the bark

than the aborigines of the Great Andaman, their ornaments being composed of it. . . . . The people of the western tribe of Torres Straits, who in their customs greatly resemble the Andamanese, make a similar use of Orchid bark; specimens are probably in the British Museum (see a paper by Professor A. C. Haddon in the *Journal of the Anthropological Institute*, November 26, 1889, pp. 385, 386).'"

ORCHIDS AT GODALMING.

ELSTEAD HOUSE, Godalming, the residence of C. L. N. Ingram, Esq., is familiar to our readers as the source of many fine hybrids of the Cattleya group, which have been raised by Mr. Bond, Mr. Ingram's able gardener, and as we had the pleasure of looking through the collection a few days ago, we made the following hasty notes. Six or seven houses are mostly devoted to Orchids, of which the number is estimated to exceed six thousand, the plants being in that thriving condition which indicates that their requirements are well looked after. The large Cattleya house contains about two thousand plants in various stages, those in flower at the time of our visit including a good series of C. Gaskelliana and Warscewiczii, a fine variety of the former showing a large amount of yellow on the lip's disc, and one of the latter having the eye-like blotches quite white. Of C. Eldorado some pretty forms were noticed, and an exceptionally large and handsome form of C. Leopoldi. The only Lælia observed was L. crispa, which has the merit of flowering at this comparatively dull season, so far as Orchids are concerned. Lælio-cattleya × Schilleriana was represented by a variety with blush-pink sepals and petals, and L.-c. × elegans by a good richly-coloured form. The most interesting of home-raised hybrids in flower was L.-c. × Elstead Gem, a striking hybrid derived from Lælia xanthina and Cattleya bicolor, which has bright greenish-yellow sepals and petals, white side lobes to the lip—which are much better developed than might have been excepted—and a brilliant amethyst front lobe, the three colours forming a very effective contrast. A seedling from Lælia Dayana ♀ and L. anceps ♂ was also producing a first flower, the peduncle being very short, and the colour purple, but evidently not yet properly developed. Another promising seedling just flowering is descended from Cattleya Lawrenceana and C. Trianæ. Cœlogyne Massangeana was also flowering freely here.

Two Cool houses contain a good collection of Odontoglossums and others requiring similar treatment, very few being now in flower, though we observed a good plant of Lycaste cruenta. There is also a good house of Dendrobiums, containing numerous species and hybrids, most of them

now making growths for next season's flowering. A Warm house contains a number of Phalænopses in vigorous health, bearing clean strong leaves without any trace of spot. Here also the warm-growing Cypripediums and a few other plants find their home. Two other houses also contain some good Cypripediums, some of which were in flower, and among them C. × gracile, a seedling from C. × Haynaldianum ♀ and C. × Swanianum ♂, bearing a three-flowered raceme.

Hybrids are numerous in the collection, for Mr. Bond commenced this interesting work many years ago, and many fine things, more especially pertaining to the Cattleya group, have appeared at the meetings of the Royal Horticultural Society. Unflowered seedlings are numerous, and likely to furnish many interesting additions, as some of the crosses effected are very promising, and these we shall doubtless here of in due season.

DENDROBIUM WARDIANUM AS A SEED PARENT.

THE following note, written as long ago as 1889 by Mr. R. B. White (*Gard. Chron.*, 1889, v., p. 438), is interesting in connection with the recent discussion on the subject:—"I have only once succeeded in getting a seed-pod on Dendrobium Wardianum, and in this case it got accidentally broken off. This species seems to me more difficult to fertilise than any of the others. What is the reason of this? It must be easily propagated in its native habitat, on account of its abundance, and we are very nearly enabled to imitate its climatic conditions."

MONANDROUS CYPRIPEDES.

ANOMALOUS flowers of Phragmipedilum × Sedeni frequently make their appearance, with one of the petals assuming the position of the upper sepal, and with the staminode and second petal apparently wanting. Such flowers at first sight seem to be entirely without petals, the labellum alone remaining of the inner circle of perianth organs. Closer observation reveals the rather startling fact that such flowers are monandrous, the third, and normally infertile, stamen (the staminode) alone being present and fertile. Transverse sections of the ovary show that the usual number of three cells is no longer constant, there being but two.

So far as I am able to ascertain, the above anomalous condition is rare in Paphiopedilum. In July, 1899, I found a specimen of P. barbatum which showed the following peculiarities, and is an interesting subject for comparison with the anomalous flowers already described above.

This particular P. barbatum flower had no upper sepal, and no lateral petals, one of the lateral petals having changed its position so as to be opposite to the labellum. The lower sepal was normal, and the labellum equally so; the staminode was also replaced by a fertile stamen, bearing good pollen, but the ovary, which one would naturally expect to find changed in some way, was normal, even to its placentation.

Whatever the significance of such anomalies, I am sure interesting experiments could be carried out by cross-fertilisation, if the pollen of the normally infertile stamen were used, not with the intention of obtaining a new monster of horticultural value, but something that might throw light on ancestral conditions in a way heretofore unheard of.

North Easton, Mass. OAKES AMES.

HYBRID ORCHIDS.

THE following note was written in 1889 by Mr. W. Smythe, Basing Park, Alton (*Gard. Chron.*, 1889, v., p. 341), and is interesting in connection with recent records. Can anyone say if any of the plants mentioned are now in existence?

"Some hybrids of Phaius grandifolius × Calanthe × Veitchii have been raised here. The seed, which was very good as regarded vitality, grew quickly on being sown. P. grandifolius, which was the seed parent, was fertilised on January 1, 1888, and the seed capsule was ripe on June 1, and was at once sown. A nice lot of young plants came up about the end of September, and some of the plants are now 1½ inches high, and look promising. The foliage is very much more like that of Calanthe × Veitchii than of Phaius grandifolius. I may mention that the seed was sown on the soil in which the plant of Phaius was growing; and before sowing the seed the soil was loosened on the surface, and the old plant placed on a shelf in the stove, where the treatment adopted was that usual with Phaius. I think that this is by far the easiest and most certain way to raise any seedling Orchids, and I feel quite sure that seeds of many of our best Orchids, if they can be obtained, would come up well, and grow much better thus raised than if they were specially treated. I have proved that Odontoglossums and Cypripediums will succeed in this way. I have several other Orchids that have seed capsules upon them that will soon be ripe, and these seeds it is my intention to treat in this way. Moreover, I have Oncidium fertilised with Odontoglossum, the capsules being now ripe; and likewise Zygopetalum Mackayi and Calanthe vestita fertilised with Phaius grandifolius."

GOODYERA TESSELLATA.

One of the most interesting Orchids of the eastern United States is Goodyera tessellata, Lodd. It is found in upland woods, usually under the shade of pine forests, differing from G. pubescens, R.Br., its near ally, in its method of growth. It is not found in patches like G. pubescens, but isolated, each plant being a hundred feet or more distant from its nearest neighbours. It is interesting for its leaves, which exhibit a range of variation most remarkable; some being less than one inch, while others exceed two inches in length; some are broadly ovate, others narrowly lanceolate; some are distinctly reticulate-veined, while others show every conceivable kind of nervation until plain green is reached. The scapes are also variable, not only in the number of flowers they support, but in length, some exceeding eleven inches, while others are considerably shorter than four inches, and on plants growing under similar and favourable conditions.

This species, which has been well worked out and freed from the confusion in which it recently existed (Fernald in *Rhodora*, i., pp. 2—7, t. 1), is a difficult subject to handle under cultivation, and rarely lives longer than two years when introduced to gardens. The cause of this cannot at present be stated with certainty, and yet the very fact that the plants refuse to grow, if only moved a few hundred yards from their native habitat, is significant. In every instance where I have examined this plant in gardens it has been firmly placed in garden soil. This is undoubtedly an opposite method to that apparently required, for the plant, under natural conditions, grows with its roots among pine needles, except in rare cases when it has been reported growing in deep moss. If G. tessellata could be handled in cultivation, set out in rockeries or in the open ground, under the shade of Conifers (although deciduous trees might do fully as well), it would make a valuable acquisition to this section of hardy botanical Orchids, its variable leaves warranting its culture. Its blossoms make a very good appearance when they open in late July and early August. They are whiter than those of G. pubescens, and, being born in loose spikes, are much more attractive.

G. tessellata was published by Loddiges in 1824 (*Bot. Cab.*, t. 952), and shortly afterwards described by Sims as G. pubescens var. minor (*Bot. Mag.*, t. 2540), but neither of these names has been in general use among botanists in the United States. At the exhibitions of the Massachusetts Horticultural Society, the collections of native plants usually contained specimens of an ambiguous Goodyera species, which some persons called G. repens, others G. Menziesii, although nobody was absolutely certain as to which the plant might really be. This confusion arose from the

fact that Gray's *Manual of Botany* did not give a fourth species, and of the three described it was natural that those which were not G. pubescens should be mistaken for the plant in question, which could not be distinguished sufficiently from either of them—in fact, the geographical range as given in Gray's *Manual* was misleading, and in part mistaken; the species G. Menziesii there described from New York and New Hampshire being confused with G. tessellata. Even in the *Illustrated Flora* by Britton and Brown, recently published, G. tessellata seems to have furnished some of the material for a description of what is there called Peramium Menziesii (i. p. 475).

The main differences between the species of Goodyera named in this account may be summed up as follows :—G. pubescens has globular flowers, and two very short teeth on the stigma ; G. repens has a saccate labellum, with an elongated, recurved tip, the teeth on the stigma short ; G. tessellata has a less saccate labellum, the elongated tip slightly if at all recurved, and the teeth of the stigma equalling in length the body of the stigma ; and G. Menziesii has a slightly saccate labellum with involute margin, and the teeth on the stigma longer than in G. tessellata.

OAKES AMES.

North Easton, Mass.

ORCHIDS OF LOWER BENGAL.

ALTHOUGH our Indian Flora is extremely rich in Orchids, it is surprising to notice how limited in number are the species found in the low-lying districts known as the plains of Bengal. If we attempt to make any comparison with the number found in the hills, and right throughout Assam and Burma, we shall soon come to the conclusion that Bengalese Orchids are so limited in species that they hardly deserve to be spoken of. I think I am right in saying that the number of species found in Lower Bengal does not exceed a dozen, and these cannot be considered as typical or peculiar to this particular part of the Empire.

The commonest of all, and the only one really typical of the Jungle, is the old Vanda Roxburghii, which grows under the most varied conditions ; and during the months of March, April, and May, the display formed by hundreds of spikes is simply delightful. There are some very distinct varieties, differing principally in colour, and the lips varying from light pink to deep brown, as well as nearly blue. The white form seems to be very rare, and we have in our gardens only a single record of a white variety, which unfortunately was lost a few years ago.

Cymbidium pendulum may be mentioned next, and is often found in large clumps, sending forth its long drooping spikes, bearing a multitude

of yellow and purple striped flowers, which vary in colour. It also varies a great deal in habit, sometimes appearing as a tallish plant, and at others rather dwarf and fleshy. This depends a great deal on the conditions under which it grows, and the more the plant is exposed to the full light the dwarfer it appears. This species varies so much that it may be easily mistaken for C. bicolor, which is found further south.

Pogonia, a genus of terrestrial herbs, is represented by two species, P. carinata and P. plicata, found in quantity in shady spots, and which are scattered throughout Bengal. About April or May they push up their small spikes, which very seldom exceed 6 ins. in height, and have the peculiarity of flowering before the leaves appear. P. plicata, which is very common in the neighbourhood of Calcutta, is represented by two distinct forms, one which has brown leaves, and the other perfectly green, though sometimes brown in their early stage. Their leaves are very broad, strongly plicate, and rest on the surface of the earth. P. carinata is smaller in habit.

Pogonias are sometimes found in European collections, but do not seem to flower freely. Let me say that to succeed with them, their resting period ought to be very well observed, that is to say from the time the leaves perish until the flower spikes appear, which is for them a natural sign of awakening. While growing, they require a great deal of humidity, which will practically correspond to our rainy season.

Didymoplexis pallens is undoubtedly a charming little terrestrial leafless saprophyte, which also flowers during May and June, and is nearly always found in wooded, shady situations. The flowers, which are yellowish white, are rarely more than four in number, on a small, erect spike, and the pedicels, which are very short at first, have the peculiarity of elongating enormously as the capsule develops, sometimes attaining a length of eight inches. It is not cultivated in Europe, and, being a saprophyte, probably could not be introduced alive, though it would be an interesting addition to a botanical collection.

Eulophia is also represented by two species well known in European collections, viz.: E. virens and E. campestris. The former extends from Bengal southwards to Ceylon, in the Central Province, and the latter is well known all over the plains of India. Unfortunately they are not of much decorative value. Geodorum dilatum is also sometimes found, but is very scarce in the district of Calcutta, and is known to flower just before the rains break. Saccolabium papillosum seems to be the only representative of the genus found in our plains. It is spread northward and eastward to Assam. One or two species of Goodyera and Sarcanthus are said to grow in Bengal, but I have not yet found any.

A. GRIESSEN.

ONCIDIUM × HÆMATOCHILUM.

FOUR years ago it was suggested by Mr. T. I. Potter, of St. Anne's, Trinidad, that this handsome but mysterious Oncidium was a natural hybrid between Oncidium luridum and O. Lanceanum, and as a result of this communication the history of the plant was examined in detail, the result being to confirm the probability of the truth of Mr. Potter's suggestion (*Orch. Rev.*, iii. pp. 174, 175). Mr. Potter showed that the plant occurred in a wild state in the south-western part of Trinidad, in the Cedros district, together with the two species in question, and was intermediate between them in shape and colour. He had also succeded in crossing the two species together arti-

Fig 15. ONCIDIUM × HÆMATOCHILUM.

ficially, and though he had only succeeded in raising one seedling, he hoped that in due time it would flower, and remove the last element of doubt in the matter. The photograph here reproduced was afterwards sent by Mr. Potter, and shows the two varieties mentioned in his former note. It will be observed that they differ considerably in detail, the one on the right hand having a large amount of yellow on the lip, with the crimson stain confined to the centre. This has also much spotted sepals and petals, and more of the shape of O. luridum generally, a peculiarity which is said also to extend to the general habit of the plant. The other has more of the shape of O. Lanceanum. the sepals and petals are less spotted, and the crimson blotch on the lip extends much further towards

the margin. A second photograph of this, showing the entire plant, bears out Mr. Potter's remark that it is also most like O. Lanceanum in habit. Both were obtained from the same locality, and illustrate well what is already known of the variability of hybrids. It is a matter of regret that so handsome a plant should be so rare in cultivation, and we hope that our hybridists will now take the matter in hand.

A BRITISH HYBRID ORCHID.

EV'DENCE as to the occurrence of Natural Hybrid Orchids in Britain is gradually accumulating, and the following note appears in the August number of the *Journal of Botany* (p. 360) :—

"On June 23rd, 1898, on the slope of the chalk escarpment north of Sevenoaks, I observed, growing in company with Orchis maculata and Gymnadenia conopsea, two flowering spikes of intermediate appearance, resembling the former in general aspect, and the latter in colour. Further examination showed that they resembled O. maculata in the stout spur without free honey, the spotted lip, and the absence of strong aromatic fragrance. In the leading generic character the flowers resembled Gymnadenia rather than Orchis, the viscid glands being twice as long as broad, destitute of a pouch, and so placed as to form the roof of the entrance to the nectary, the stigmatic surfaces being thus necessarily lateral. The spur, while as stout as that of O. maculata, differed from it in being slightly curved, and rather longer than the germen. Even in the minor details, such as the texture of the pollen masses and the nearly horizontal lateral sepals with strongly revolute margins, the affinity to G. conopsea was shown, as also in the fact that these sepals usually expanded before the lip. This year I again found in the same place two spikes of the intermediate plant, and, having submitted one of these to Mr. Frederick J. Hanbury, he agrees with me that the plant must be a hybrid. According to Darwin and Müller, O. maculata is fertilised by diptera, and G. conopsea by night-flying moths, but the occurrence of the hybrid shows that the same insect occasionally visits both. From evidence incidentally furnished in Pryor's *Flora of Hertfordshire*, I believe that the plant known as Orchis latifolia var. angustifolia usually grows associated with G. conopsea, and I would recommend botanists who have observed this form to ascertain whether it be not, as I think probable, the hybrid in question.—H. PEIRSON."

Although I have not seen the plants in question, I think from the description that they belong to Orchigymnadenia × Legrandiana (Camus in *Journ. de Bot.*, 1892, p. 478), a natural hybrid with the above parentage, which has already been detected in Austria and France.

R. A. ROLFE.

ORCHIDS AT LIVERPOOL.

A VERY interesting collection of Orchids which we had the pleasure of inspecting about the end of May last is that of Reginald Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool. Mr. Young, it is well known, is a great lover of Cypripediums, but does not confine his attention to them alone, for three of his five houses are devoted to other groups. The houses are attached by a glass lobby to Mr. Young's residence, and thus can be conveniently visited in all weathers without stepping into the open air.

First in order comes the Cool or Odontoglossum house, in which we observed good flowering examples of O. crispum, Pescatorei, triumphans, polyxanthum, Cervantesii and Rossii, together with Epidendrum vitellinum, which is grown on rafts and succeeds well, some good Masdevallia ignea, a well-flowered example of Dendrobium infundibulum, also Polystachya pubescens, and Oncidium macranthum in bud.

Next follows a Cypripedium house, kept at Intermediate temperature, where besides the inmates proper, which we will return to later, we also noted good examples of Odontoglossum citrosmum with its beautiful pendulous racemes, Maxillaria Sanderiana, Chysis bractescens, Saccolabium ampullaceum, and the remarkable Dendrobium Brymerianum. Miltonia vexillaria is also grown here, and the plants were in bud.

Then comes a Warm Cypripedium house, where, besides a fine collection of these plants, we observed examples of Dendrobium Dearei and pulchellum (Dalhousieanum), also the graceful Platyclinis filiformis in bud.

The next house may be described as a Stove, as it has various Orchids suspended from the roof, with stove plants below, the former including various Dendrobiums, Lælia anceps, good plants of Cœlogyne cristata, Vanda teres, &c.

The Cattleya house is a larger structure, and contains numerous good examples of this genus and its allies, with a few other interesting things. Among those noted in flower were several good forms of C. Mossiæ, C. Mendelii, C. citrina, forms of Lælia purpurata, Epidendrum × O'Brienianum, a fine plant of Ornithidium Sophronitis, the handsome Vanda teres, and Dendrobium thyrsiflorum.

The Cypripediums, however, are Mr. Young's special hobby, and of these he has a fine collection, besides hundreds of his own seedlings, in all stages from the tiniest seedlings up to those which have reached the flowering stage. These belong to upwards of 150 different batches, raised between 1892 and 1898, and some good things may be anticipated during the next few years. Mr. Young has recorded all his crosses in the most careful manner, and further has the most complete list of hybrids of this group from all sources which we know of, as he keeps all the additions

posted up as they appear, in a thoroughly systematic way. The importance of such records can hardly be over-estimated, and we had great pleasure in looking through them. Mr. Young, as our readers are already aware, has adopted what has been termed the "new nomenclature," in his collection, and our notes are made in accordance.

Many species and hybrids were in flower at the time of our visit. In the Intermediate house we noted some fine forms of Paphiopedilum bellatulum, including the beautiful variety album, two fine flowers of P. × Drurio-Hookeræ, a really striking thing, P. Argus, barbatum, Boxallii, hirsutissimum, × Clotho, a light form of Appletonianum, and others, also good plants of Phragmipedilum × Sedeni candidulum and × leucorrhodum. As might be expected in such a collection, many fine seed-pods were developing, some of which will probably be heard of in the future. On many of the pots seeds had been sown, and it was interesting to see the tiny plants in various stages of germination.

In the Warm house many good things were in flower, including P. Chamberlainianum, barbatum, Lawrenceanum, × superciliare, × selligerum majus, Hookeræ, Curtisii, × microchilum, ciliolare, niveum, × almum, and some others, together with Phragmipedilum × Dominianum, × grande, × Schrœderæ, and × nitidissimum, making a very nice show. Here also was plenty of evidence of the hybridisation experiments carried on, both in the shape of capsules, and the number of young seedlings appearing, a circumstance which doubtless entails some embarrassment when repotting becomes necessary.

It would be impossible to indicate a tithe of the interesting crosses which have been made here, but a few of them may be mentioned. P. Lawrenceanum × Rothschildianum is represented by several good plants, quite intermediate in the foliage, and nearly of flowering size. Of P. Lawrenceanum × Sanderianum there are a few good plants. P. × Lawrebel and × Richmanii are represented by promising seedlings. P. bellatulum × Volonteanum is a good plant, and very promising. Other good crosses are P. Chamberlainianum × Lathamianum, P. callosum × micranthum, P. × œnanthum × Youngianum—which should be interesting because containing five species in its ancestry—P. Charlesworthii × œnanthum superbum, and the reverse cross, P. ciliolare × Rothschildianum, P. × œnanthum superbum × Crossianum, &c. We were interested to examine the curious seedlings obtained from P. barbatum × niveum which have several times been mentioned. One of them certainly shows the influence of P. niveum, but is a very "miffy" grower, but the rest look like P. barbatum almost unmodified, and one of them was in flower. Lastly may be mentioned the interesting seedlings from P. Appletonianum × callosum, which it is believed will prove the parentage of P. × siamense.

The collection is ably managed by Mr. Poyntz, Mr. Young's gardener, and is rapidly increasing in interest as the seedlings progress towards the flowering stage. We hope to have many future notes to record.

Another interesting collection is that of F. H. Moore, Esq., of the Royal Infirmary, Liverpool, which illustrates well what an amount of enjoyment can be obtained out of two small houses if well looked after. These houses may be classified as a Cool and a Dendrobium house, and with the exception of such routine details as ventilation and watering, Mr. Moore chiefly attends to the plants himself.

The Cool house contains quite a varied collection, and among those in flower were Odontoglossum cordatum, Cervantesii, citrosmum, in bud, Rossii, and maculatum, Oncidium concolor, Cattleya citrina, Cymbidium Lowianum, Masdevallia Harryana and × Chelsoni, and Lycaste cruenta. The rare little Odontoglossum Galeottianum was also showing for flower. Among plants which succeed well here we noticed Dendrobium infundibulum, a good old plant of D. crassinode, and D. Wardianum—the latter said to have been grown cool for five years, and succeeds well—Lælia præstans, and Oncidium spilopterum. Mr. Moore indulges in hybridising, and we noticed good capsules of Odontoglossum bictoniense × grande, O. Cervantesii × crispum, Oncidium tigrinum × ornithorhynchum, and, what certainly deserves to be classed among "curious crosses," Maxillaria tenuifolia × Odontoglossum cordatum, nearly ripe. Cattleya citrina has also been crossed with Sophrocattleya grandiflora, and has evidently taken. With the hope of obtaining seedlings of Odontoglossum × Humeanum we then and there crossed and re-crossed O. Rossii and maculatum, but the results of all these crosses must be left for the present. We noticed here a small plant of the pretty little Sophrocattleya × Chamberlainii, obtained from Messrs. Cowan.

Passing into the Dendrobium house we observed in flower, a very good form of D. crepidatum, D. crassinode, some good forms of D. nobile, D. densiflorum, D. Boxallii, Odontoglossum citrosmum, Chysis bractescens, Paphiopedilum barbatum, and a good plant of Phragmipedilum × Sedeni candidulum, with three spikes. The Dendrobiums were mostly over, but the seed-pods showed that Mr. Moore had been busy, for we observed D. nobile crossed with Devonianum, densiflorum, and infundibulum, also with the abormal D. n. Cooksonianum, D. Findlayanum × ochreatum, D. luteolum × infundibulum, D. ochreatum × Wardianum, and D. × Ainsworthii intertextum × ochreatum. Of older capsules we noted D. aureum × primulinum from which good seed was escaping, also D. Findlayanum × nobile beginning to split; also some nice seedlings of a similar cross. Mr. Moore finds his crosses most successful in this genus

when very old pollen is used. He also finds old bracken roots an excellent substitute for crocks in the baskets used.

Mr. Moore has also some good capsules of the Cattleya group, as C. Harrisoniana × Warscewiczii, and C. amethystoglossa × Sophronitis grandiflora. C. velutina × Warscewiczii had been sown, also L. tenebrosa crossed with the same species. This capsule contained an enormous quantity of good seed, and some of it was germinating well.

Mr. Moore has been very successful in cultivating his plants, and has made a promising commencement in hybridising. We hope he will be equally successful in the later stages.

NEW ORCHIDS.

In the July-August number of the *Kew Bulletin*, just issued, a number of interesting new Orchids are described by Mr. Rolfe, mostly from New Guinea and Celebes. Those from the former island were collected by Mr. A. Giulianetti, and comprise four novelties from an altitude of 12,200 feet on Mount Scratchley, namely, Dendrobium rigidifolium, a member of the D. veratrifolium group; D. brevicaule, a remarkable alpine species of the Pedilonum group, only a few inches high, and bearing proportionately very large flowers; Giulianettia tenuis, a remarkable new genus, allied to Ceratostylis (also figured at t. 2616 of the *Icones Plantarum*); and Pterostylis papuana, a member of a genus hitherto only known from Australia, New Zealand and New Caledonia. Two others are Calanthe Englishii, from 4,000 feet elevation on the same mountain, and Glomera papuana, an interesting addition to a genus which previously contained one species from Java and another from Fiji. Decades 23 and 24 of "New Orchids" are, with the exception of two species of Vanilla, devoted to novelties collected in North-East Celebes by Dr. S. H. Koorders, of the Forest Administration of Java, and are as follows:—Microstylis repens, M. cordifolia, Dendrobium parvulum, Cirrhopetalum Koordersii, Eria tricuspidata, E. celebica, Phreatia Koordersii, P. celebica, Calanthe celebica, Trichoglottis oblongifolia, T. celebica, T. Koordersii, Vanda celebica, Cleisostoma Koordersii, Tæniophyllum celebicum, Appendicula longipedunculata, Macodes celebica, and Peristylus bilobus. The two Vanillas are V. Hartii, a native of Trinadad, sent by Mr. J. H. Hart, F.L.S., Superintendent of the Royal Botanic Gardens there, and V. fimbriata, from the Barima River, British Guiana, collected by G. S. Jenman, F.L.S., Government Botanist. None of these plants are at present in cultivation.

ORCHIDS IN SEASON.

THE superb Cattleya Warscewiczii—often known under its later name gigas—is now flowering profusely, and when seen at its best is unrivalled in the genus for size and brilliance of its flowers. A series of five forms is sent from the collection of W. P. Burkinshaw, Esq., of Hessle, near Hull, by Mr. Barker, showing a certain amount of variation in shape and size, one of them almost corresponding to the dimensions of the variety gigantea. Another has the blotches on the lip large and pale, and in a third they extend right across the disc from one margin to the other, contrasting very effectively with the rich amethyst purple front lobe. A fourth has the lip much darker than usual and the eye-like blotches rather small; the last being typical. Accompanying them are two flowers from another plant which would almost pass for a form of the same but for the very different shape of the petals, which are shorter, nearly erect, and strongly reflexed from the central line as in C. Dowiana, not flat as in C. Warscewiczii. They are also brighter in colour, and slightly marbled, and there is a trace of golden veining in the throat, above the eye-like blotches, and a richness of colour extending to the extreme base of the lip, all of which show the influence of C. Dowiana. It is evidently a remarkable form of C. × Hardyana, in which the influence of one parent preponderates in shape and the other in colour.

Two other fine and richly coloured forms of C. Warscewiczii are sent from the collection of G. F. Moore, Esq., Bourton-on-Water, Gloucestershire, by Mr. Morris. This species sometimes gets the character of being rather shy flowering, but there appears to be little to complain about this year, and it may be that the bright warm weather we have had of late suits it, for Cattleyas which flower on the young growth without resting are impatient of any check at this season.

A very beautiful flower of the chaste Cattleya Gaskelliana alba, is sent from the collection of Thomas Baxter, Esq., Oakfield, Morecambe, by Mr. Roberts, together with a very large and well-shaped Odontoglossum crispum roseum, which measures over 3½ inches from tip to tip of the petals, the colour being rose-pink, with a few small brown spots on the lip. Odontoglossums are well-grown here, as is apparent from a series of fine blooms of O. crispum, including some prettily spotted forms, and a good O. Pescatorei with a considerable amount of purple pencilling on the lip.

A splendid flower of Cattleya Dowiana is sent from the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, by Mr. Smith. The lip is intensely dark, and the petals bear numerous reddish markings, as in the original figure (*Bot. Mag.*, t. 5618).

A beautiful seven-flowered raceme of the true Cattleya Harrisoniana, is sent from the collection of J. W. Arkle, Esq., West Derby, Liverpool. The yellow corrugated crest and shape of the lip are unfailing marks of identification of this species. The sepals and petals are bright rose-purple.

The variable Lælio-cattleya × elegans is now very effective, and a fine form is sent, together with the preceding, which has the front lobe of the lip very broad, and, together with the tips of the side lobes, of an intense crimson purple, while the sepals and petals are uniformly light rose-purple, with a few minute spots, and the side lobes of the lip rather paler. A fine form from the collection of Reginald Young, Esq., Sefton Park, Liverpool, has the side lobes of the lip white, except for a trace of pink at the margin, the front lobe rounder and lighter in colour than the preceding, and the sepals and petals rather darker and unspotted.

Messrs. James Veitch & Sons, Chelsea, send a spike of the brilliant Epilælia × Charlesworthii, from a plant raised at Langley, by Mr. Seden, a fine flower of Cattleya × Atalanta (Leopoldi ♀ × Warscewiczii ♂), and flowers of the bright purple Dendrobium glomeratum, one of the prettiest of the Pedilonum group.

CATASETUM LABIATUM.

This species is a native of the Organ Mountains, Brazil, and a plant in the Royal Gardens, Kew, has now produced flowers of both sexes, and a plate is given in the last number of the *Icones Plantarum* (t. 2617), together with the following note:—

"The male of this species was described by Barbosa Rodrigues in 1881 (*Gen. and Sp. Orch. nov.*, ii. p. 218), since which time nothing further seems to have been known about it until last autumn. In September, a Catasetum which had been purchased at a sale produced a scape of female flowers, which, as often happens with this genus, could not be determined. A second scape soon followed from the opposite side of the same bulb, and when the flowers opened, in December, they proved to be males belonging to the above-named species. It is an ally of C. luridum, Lindl., and C. Hookeri, Lindl., but differs in the details of the lip. The flowers are green, except that in the males the lip is dull yellow internally. A dried male flower and sketch of a plant which flowered in the collection in April, 1861, are preserved in the Herbarium, and clearly belong to this species, for they agree in structure and colour, but there is no note as to the origin of the plant. The present species is the twenty-third of which the female flowers have been recorded, but there is a greater number of which the sex is still unknown.—R. Allen Rolfe."

AWARDS AT THE HYBRIDISATION CONFERENCE.

A "List of Awards made by the Council of the Royal Horticultural Society, on the Report of a Committee of Experts" has been published, which contains the names of the following exhibitors of Orchids:—

GOLD FLORA MEDAL.—To Messrs. James Veitch & Sons, Chelsea —presumably for Orchids and other groups of plants exhibited by them (see report at p. 254 of our last issue).

GOLD MEDALS.—To Sir Trevor Lawrence, Bart., Burford, Dorking (p. 252), and M. Ch. Maron, Brunoy, France (p. 253).

SILVER BANKSIAN MEDALS.—To Sir Frederick Wigan, Clare Lawn, East Sheen (p. 252), and De Barri Crawshaw, Esq., Rosefield, Sevenoaks (p. 253).

The Veitch Memorial Medals offered, (1) for the best new Orchid intentionally raised by cross-breeding or hybridisation in Great Britain, and never previously exhibited, and (2) to one raised abroad under similar conditions, appear not to have been awarded.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

MANY Orchids have now completed their season's growth, and the majority of the others are fast approaching that state; therefore it is now unnecessary to maintain quite such high temperatures as formerly advised for the summer months. According to the shortening of the days, and the decline of the sun's power, so may the inside temperature be reduced. The correct figures for the present month will consequently be about five degrees less in all departments.

Shade less and less as the power of the sun declines, so that the plants may be exposed to more light and sunshine, for light as well as air is indispensable in order to well ripen up the new pseudobulbs and leaves. Do not, however, withhold their liberal supplies of water too suddenly, or the ripening process will be unduly hastened, resulting in the shrivelling of the pseudobulbs, which is undesirable, for such plants are not so well prepared to pass through the season of rest successfully as are others which remain plump throughout, nor do they give such satisfactory results when their blooming season comes round.

The Cool Orchid house must of course still be kept as cool as possible, both night and day, with an abundance of ventilation. The cool moist nights will now work wonders in this department, and the growths will almost be seen to move. Damp down morning and evening, but do not let the compost in which they are growing be over watered—that is to

say become soddened—or the roots will object, and the healthy tone of the foliage will eventually disappear. Be careful not to cease the use of shading too suddenly in this department, or it may mean an undue loss of leaves. At the same time it is bad practice to keep them too heavily shaded, but rather let them have the benefit of as much light and sunshine as they may reasonably be expected to stand successfully, until all danger of too much is passed. No fire heat should be necessary this month.

CATTLEYA HOUSE.—The inmates of this department have done grandly this year, and well they ought, for the summer has been decidedly in their favour. Those among them that have finished up, and they are many, should be collected by themselves, so that their immediate requirements may be the more easily and successfully attended to; whilst others being in full growth, which will occupy still some little time to complete, should likewise be selected and placed together at one point, so that they may be given more moisture, and induced to grow freely and well. All species having completed growth, or nearly so, will be greatly strengthened by having an abundance of air, and should now be almost capable of withstanding the full rays of the sun, but for another few weeks will require a reasonable amount of water at the roots. While the weather remains warm no fire should be needed this month, but if it suddenly turns cold a little warmth in the pipes will be advantageous, especially during the day if dull weather prevails, allowing the fire to slacken towards night and go out, for fire by night should scarcely be required this month unless unduly cold.

Dendrobiums will now mostly be away out of their growing positions, and scattered throughout the various houses according to their hardiness and capability of standing low temperatures. Many will find a home for a month or six weeks in a vinery or peach house, and no better place for them could well be found, for such is the treatment that keeps them in health. Among these are D. Wardianum, crassinode, nobile, aureum, Devonianum, thrysiflorum, densiflorum, and many others of the spring blooming kinds.

The Cattleya or Mexican houses will suit others that are slightly more delicate in constitution, as for instance, D. aggregatum, albo-sanguineum, Bensonæ, crystallinum, formosum, &c. There are also some few which like to remain and winter in the warmest house, as D. Phalænopsis, Dearei, bigibbum, superbiens, and macrophyllum. It is rather important with Dendrobiums that the winter quarters should be carefully selected, for on this depends largely their future welfare, but I have gone into the matter of names pretty fully in former Calendars, and therefore need not recapitulate here, as it is easy to refer back to previous numbers of the *Review*. I may, however, say that Dendrobes are extremely impatient of wrong treatment, and no pains should be spared to ascertain the winter

requirements of each individual species, which will also serve as a guide to the treatment of their hybrids.

It has likewise been a grand season for all inmates of the Mexican house. Mexican Lælias and allies are in many gardens grown exceedingly well in the ordinary Cattleya and Intermediate departments, so that it is not absolutely necessary to have a sunny house set apart for them. But, as I have before explained, it is not at all a bad plan if such a house can be set apart for them, for not only do they get a better chance to do really well, but such a house is exceptionally convenient at this season for ripening off the various species which require thorough good ripening, besides providing a suitable place where one can experiment with difficult growing species, and there are usually a few such in every genus.

East Indian House.—The temperature here should also be lowered by a few degrees, and damping down twice daily should now be sufficient. Use no more warmth from the hot-water pipes than is necessary to maintain the requisite degree of heat, for to have more than is really necessary is most injurious to the plants, and quickly reduces their health and vigour. Saccolabiums, Angræcums, Phalænopses, Aërides, and Vandas will now have partially finished their season's growth, which of course requires to be matured to a certain extent, and therefore the supply of water at the roots must be slightly reduced, so that they may prepare for the coming winter. They should also be less heavily shaded, but it must be reduced very cautiously, for it must be remembered that Orchids of this class, having no pseudobulbs, have to rely on their handsome leaves, not only for their appearance, but their strength also, and therefore the leaves should be preserved intact as long as possible. A sudden and protracted exposure to strong sunshine, or an excessive drought, before these new leaves are somewhat matured, may therefore do an immense amount of damage.

Re-potting.—There may still be a few plants distributed about a collection that may be in a suitable condition for re-potting, and these should be attended to. It is, of course, too late to re-pot on a large scale, and any that are now done should be handled with the greatest care, and be given afterwards suitable treatment to encourage the roots to grow freely. Those which may yet be done include Cattleya Eldorado, C. superba, and a few other late kinds that, for various reasons, have not been ready for re-potting before. Some of these are just pushing out new roots from the base, and may be taken in hand, using special care not to break the roots, and afterwards giving special treatment by keeping their surroundings better supplied with moisture than is necessary for most others at this date, so that their recovery may be accelerated. The two beautiful species just mentioned are particularly partial to warmth and moisture when growing, and do not at any time relish a too rigorous

resting or drying-off. A few of the late blooming Odontoglossum crispum, &c., in the Cool house may also be found in the right stage for re-potting.

Lælia Jongheana has been imported of late in large numbers, and is now in most collections, and will doubtless prove to be a most valuable addition. Very few growers have yet seen this species in flower, and its great beauty will therefore be awaited with pleasure and interest. It is said to be a cool growing kind, which judging from experience really means that it belongs to the Intermediate department, where I should recommend it to be cultivated. Most of the clumps as imported seem to be adaptable for block or raft culture, on which they could be fixed with little or no trouble, and will doubtless do well so treated, as they would also in shallow pans, or baskets made firm with a little peat and sphagnum moss. I would advise them being set up without delay, and pretty well supplied with moisture, so as to induce the roots to make some progress before the winter is too far advanced. This also applies to other Lælias and Cattleyas imported at this season, and there are a good many, including such well-known old species as C. Dowiana, C. amethystoglossa, C. Harrisoniana, C. Aclandiæ, and even C. labiata, all of which should receive liberal and encouraging treatment.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Coal Exchange on the 17th of August, but unfortunately a quorum of the Committee was not present, and consequently awards could not be made. Those members of the Committee who attended, were, however, so much impressed by a plant of Odontoglossum chiriquense sent by W. Groves, Esq., of Windermere, that they took the responsibility of giving it a Gold Medal and Cultural Certificate, subject to confirmation at the next meeting of the Society. The following is a list of the exhibits:—

S. Gratrix, Esq., Whally Range (gr. Mr. McLeod) showed Cypripedium × Alport (Lawrenceanum Hyeanum × Elliottianum), a very fine hybrid with specially large dorsal sepal; C. × Mars (Rothschildianum × Harrisianum), C. × McNabianum, C. × Gowerianum, and what has since been determined as Cattleya × Whitei, a beautiful form with an exceptionally dark labellum.

W. G. Groves, Esq., Windermere (gr. Mr. Robertshaw), showed a magnificent specimen of Odontoglossum chiriquense, the picture of robust health and good cultivation, growing on a large teak raft, and with a splendid flower-spike containing thirty-six fine flowers. A Gold Medal and

Cultural Certificate were recommended, subject to confirmation at the next meeting. (This is the plant of which a figure is given at page 49 of our February number, showing its condition last year.) The same exhibitor also showed a nice plant of Lycaste trifoliata.

Mr. P. Weathers, Old Trafford, showed Cattleya Loddigesii albens.

Mr. A. J. Keeling, Bingley, showed Cypripedium × rubens, a very interesting cross between C. Charlesworthii and C. × Harrisianum, which should develope into a good thing when it grows stronger.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was a good display of Orchids at the Drill Hall, James' St., Westminster, on August 15th, and several of the exhibits were of excellent quality. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. Ballantine, Chapman, Crawshay, Douglas, Fowler, Haywood, Hill, Outram, Pollett, Protheroe, Smee, Thorne, Young, and O'Brien (hon. sec.).

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), staged a very choice group, including Lælio-cattleya × Wiganiana, a very large and beautiful hybrid, supposed to have descended from Lælia purpurata and Lælio-cattleya × Dominiana, and having rosy-lilac sepals and petals, and a deep claret-purple lip (First-class Certificate); L.-c. × Aurora, Cattleya × Whitei, Wigan's variety, a beautiful natural hybrid derived from C. Warneri and C. Schilleriana (Award of Merit); C. × Atalanta (Leopoldi × Warscewiczii), a finely-grown plant (Cultural Commendation), and C. × Aclandiæ nigrescens, a form with the sepals and petals almost uniformly dark-brown.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Hill), sent two fine old Orchids which are very rarely seen at exhibitions, namely, Stauropsis lissochiloides and Schomburgkia Lyonsii, each of which received an Award of Merit.

Mrs. Mason, The Firs, Warwick (gr. Mr. Lambert), sent cut spikes of the handsome Lælio-cattleya × Berthe Fournier (Award of Merit), Dendrobium Maccarthiæ, Cattleya × Fowleri, C. Warscewiczii, Cypripedium Curtisii, and C. × Frau Ida Brandt.

The Right Hon. Marquis of Salisbury, Hatfield (gr. Mr. Norman), sent a splendid plant of Aërides Lawrenceæ Sanderianum, with thirty-five leaves, and four spikes of about three feet in length, to which a Cultural Commendation was given.

The Rev. F. Paynter, Stoke Hill, Guildford (gr. Mr. Cooke), sent a pretty hybrid derived from Cattleya Warneri and probably C. velutina, the flowers being buff tinted with rose, and the rounded front lobe of the lip

pale rose, with some purple veining, and an orange blotch in the centre. Cut spikes of Cattleya Gaskelliana virginalis, C. Harrisoniana, and Lælio-cattleya × Henry Greenwood were also sent.

C. E. Chrimes, Esq., Selwood, Rotherham (gr. Mr. Watts) sent a fine form of Cattleya × Hardyana, with marbled sepals and petals, and a very dark lip.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent Odontoglossum crispum Trianæ, O. c. Miss F. Bovill, and a fine form of O. Uroskinneri.

M. Jules Hye-Leysen, Coupure, Ghent, sent a splendid spike of Cypripedium × Massaianum.

Captain T. A. Julian, Woodside, Plymouth, showed a good Cattleya Harrisoniana violacea and a fine light form of C. Eldorado.

W. Macdonald, Esq., Pitlochry, Aberdeen, sent a Cypripedium said to have been derived from C. Elliottianum and C. Godefroyæ, though the influence of the latter was not apparent.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a fine group, to which a Silver Flora Medal was given. It contained a splendid Cattleya Gaskelliana pallida with ten flowers, the handsome C. Warscewiczii, some good forms of C. Eldorado and C. superba, half-a-dozen fine Vanda cœrulea, the pretty natural hybrid V. × Charlesworthii, Lælio-cattleya × elegans Turneri, Lælia × Novelty, Oncidium Marshallianum, Dendrobium × Leeanum, Odontoglossum Pescatorei, O crispum, Cypripedium × macropterum, and other fine things.

At the meeting held on August 25th Orchids were not very numerous, but included a few interesting novelties,, only one of which however secured an Award. The members of the Orchid Committee present were :—H. J. Veitch, Esq., in the Chair, and Messrs. O'Brien (hon. sec.), Bond, Chapman, Cobb, Colman, Crawshay, Douglas, Fowler, Haywood, Hill, Little, Outram, Pollett, and Smee.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent a fine form of Cattleya × Hardyana, a splendid C. Warscewiczii, and C. × mollis (superba × Gaskelliana), a pretty hybrid most like the former in shape, with the sepals and petals pale lilac, and the crisped and rounded front lobe of the lip deep rose.

H. S. Leon, Esq., Bletchley Park, Bucks (gr. Mr. Hislop), showed Lælio-cattleya bletchleyensis (L. tenebrosa × C. Warscewiczii), a fine hybrid most like the former in shape and the latter in colour. The sepals and petals were warm rose-colour, and the lip darker, veined and tinged with crimson on the front lobe.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. King), showed the rare Houlletia odoratissima, and a very fine form of Cattleya × Hardyana.

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed a plant called Zygopetalum Protheroeanum (possibly a form of Z. brachypetalum) with dark chocolate-coloured sepals and petals, and a violet lip with some reddish markings at the base; also cut spikes of a light form of Epidendrum prismatocarpum.

Capt. Law-Schofield, New Hall Hey, Rawtenstall (gr. Mr. Shill), sent a fine form of Cypripedium × Juno, and another fine hybrid called C. × Veitchii-Morganiæ, presumably a re-cross between C. × Morganiæ and superbiens, one of the original parents.

Mrs. Mason, The Firs, Warwick (gr. Mr. Lambert), showed Cattleya superba splendens, and a good form of C. Harrisoniana.

H. S. Simonds, Esq., Woodthorpe, Beckenham (gr. Mr. Day), showed two good forms of Cattleya × Hardyana.

Messrs. James Veitch & Sons, Chelsea, staged a small but very choice group, to which a Silver Banksian Medal was given. It contained half-a-dozen finely flowered plants of Lælio-cattleya callistoglossa var. ignescens, some good L.-c. × Nysa, and L.-c. × Phryne (C. Warscewiczii ♀ × L. xanthina ♂), a pretty hybrid most like the latter, the sepals being pale yellow, the petals yellowish-white, and the lip bright rose-colour in front and yellow at the base. Three other interesting hybrids were also shown. Phaio-calanthe × insperata (Phaius grandifolius ♀ × Calanthe Masuca ♂) has flowers most like the Calanthe parent, but larger, the sepals white tinged with lilac, the petals rather darker, and the lip light-rose, tinged with orange, becoming darker on the disc. Cypripedium × Janet (præstans ♀ × Spiceranum ♂), most resembles the former, though much modified in detail and shows much less of the Spiceranum influence than usual. Lastly, C. × Captain Holford (superbiens ♀ × hirsutissimum ♂) is a striking thing to which an Award of Merit was given. The dorsal sepal is white, tinged with green, and with a trace of the dark shading of the pollen parent, the petals tinged with green on the basal half and rose above, densely spotted with dark purple, and the lip dull rose-purple.

Mr. A. J. Keeling, Cottingley, Bingley, Yorks., showed two plants of Cypripedium × bingleyense (Charlesworthii × Harrisianum), a very promising hybrid, most like the former, but enlarged in size, the upper sepal green at the base, surrounded by a zone of purple tint, above which the rose-purple veins extended into the white margin, petals brownish-rose, lip greenish tinged with red, and the staminode blush-white.

Mr. E. Kromer, Roraima Nursery, West Croydon, showed a fine specimen of Miltonia Regnellii bearing six spikes of flowers.

Messrs. F. Sander & Co., St. Albans, showed Lælia pulcherrima (Boothiana × purpurata) with a fine four-flowered inflorescence, the

blooms being intermediate in shape, the sepals and petals tinged with lavender, and the lip prettily veined with rose.

ORCHID PORTRAITS.

CATTLEYA HARRISONIÆ ALBA.—*Journ. of Hort.*, Aug. 3, p. 97, fig. 22; *Gard. Mag.*, Aug. 19, p. 513, with fig.

CATTLEYA SCHILLERIANA VAR. SUPERBA.—*Lindenia*, t. 673.

CATTLEYA TRIANÆ VAR. LUCIDA.—*Lindenia*, t. 671.

CATTLEYA × WHITEI, Rchb. f.—*Gard. Mag.*, Aug. 26, pp. 532, 533, with fig.

COMPARETTIA MACROPLECTRON, Rchb. f. et Triana.—*Lindenia*, t. 674.

CYPRIPEDIUM × ANTIGONE.—*Journ. of Hort.*, Aug. 10, p. 117, fig. 26.

CYPRIPEDIUM VILLOSUM (and eleven varieties).—*Lindenia*, t. 669-670.

LÆLIO-CATTLEYA × DOMINIANA LANGLEYENSIS.—*Garden*, Aug. 19, pp. 142, 143, with fig. t. 1236.

LÆLIO-CATTLEYA × DUVALIANA.—*Gard. Mag.*, July 29, p. 467, with fig.

LÆLIO-CATTLEYA × GOTTOIANA, Rolfe.—*Lindenia*, t. 658.

LÆLIO-CATTLEYA × RADIATA.—*Gard. Mag.*, Aug. 12, pp. 500, 501, with fig.

MASDEVALLIA MUSCOSA, Rchb.f.—*Bot. Mag.*, t. 7664.

ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.—*Garden*, Aug. 19, p. 146, with fig.

ODONTOGLOSSUM CRISPUM VAR. FUNAMBULUM.—*Lindenia*, t. 672.

SOPHROCATTLEYA × QUEEN EMPRESS.—*Gard. Chron.*, Aug. 5, pp. 112, 113, fig. 43; *Gard. Mag.*, Aug. 5, p. 484, with fig.

VANDA KIMBALLIANA.—*Journ. of Hort.*, Aug. 17, p. 140, fig. 30.

ZYGOBATEMANIA × MASTERSII.—*Lindenia*, t. 657.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

A.W.H.—The flower was unfortunately decayed, and partially skeletonised and mouldy. The better plan would be to cut the ovary off and press between a few sheets of blotting or absorbent paper, and if changed once or twice before starting, so as to prevent moulding, would preserve the colour well. The photograph is excellent, and certainly Cattleya × Hardyana. The other matter is not lost sight of.

E.O.O., MASS.—We believe that this hybrid has a name, and will attend to the matter next month.

S.G., and others.—Several matters are unavoidably postponed.

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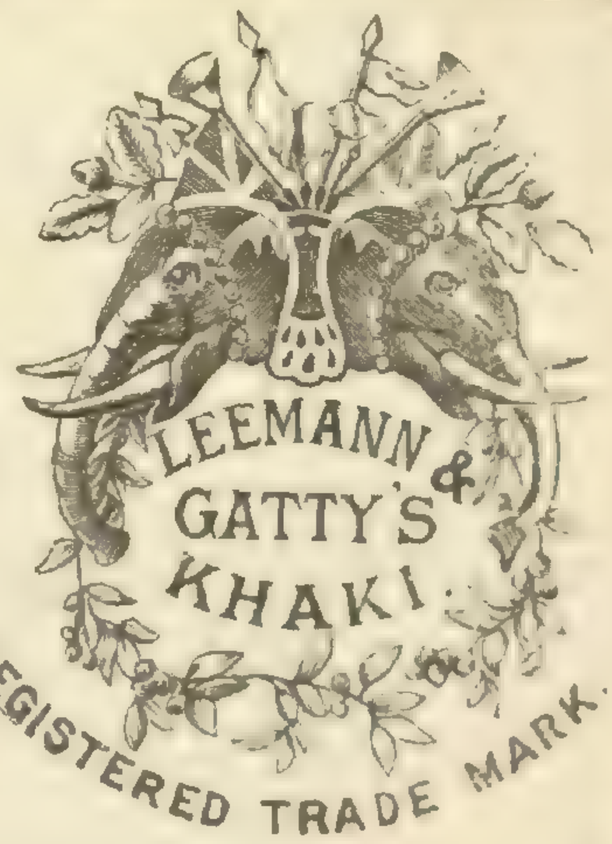

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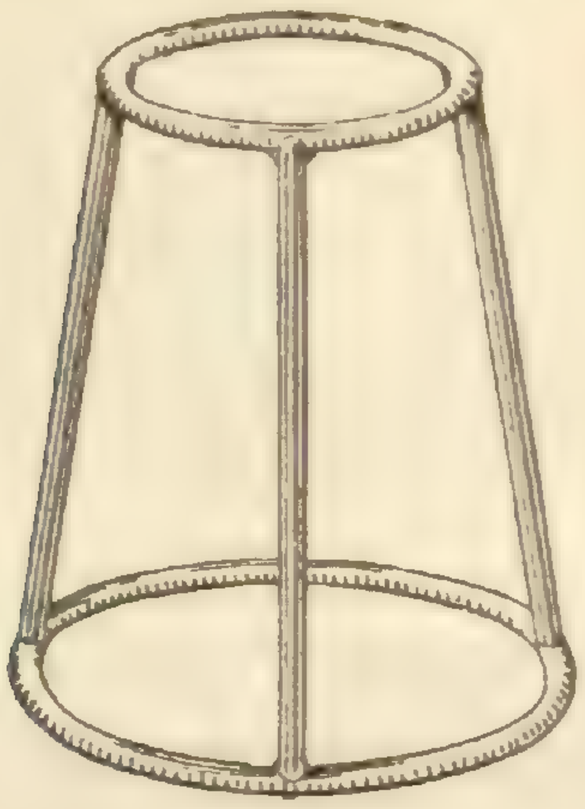

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MEETINGS of the COMMITTEE for the purpose of Adjudicating upon the Orchids submitted, will take place on September 7th and 21st, 1899, at 11 o'clock prompt. Open to members from 1 o'clock to 3 o'clock p.m.

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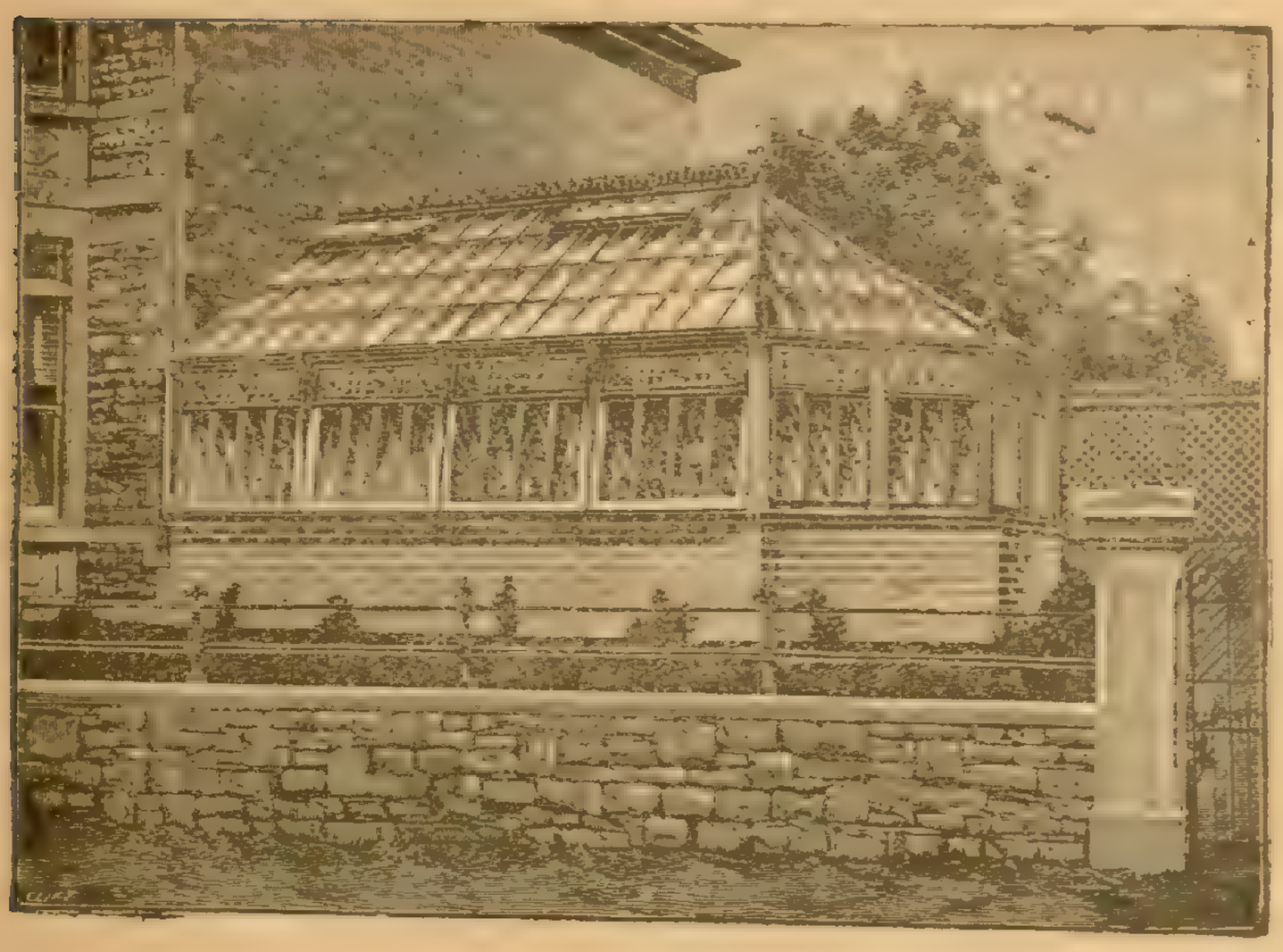

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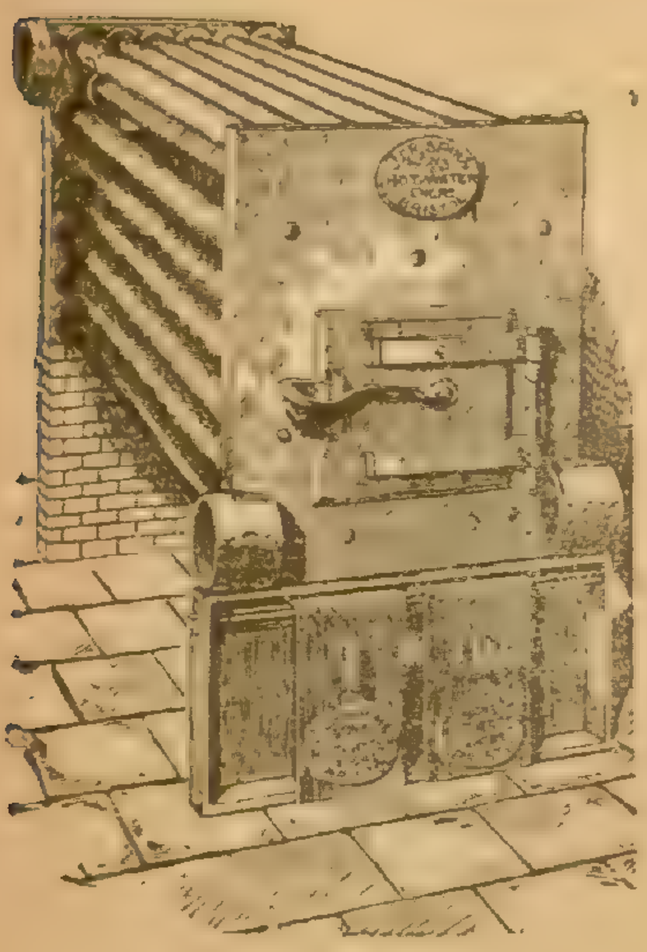

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during October, on the 10th and 24th respectively, when the Orchid Committee will meet at the usual hour—12 o'clock noon.

The October meetings of the Manchester and North of England Orchid Society are announced to be held on Friday, the 13th, and Thursday, the 26th, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 o'clock until 3.

A superb flower of Vanda Sanderiana is sent from the collection of G. F. Moore, Esq., Bourton-on-Water, Gloucestershire, by Mr. Morris. It measures five inches across its broadest diameter, and is very beautifully coloured. It is one of a spike of ten flowers, and is a splendid example of good culture.

A fine group of Cypripediums from the collection R. H. Measures, Esq. The Woodlands, Streatham, appears in the *Gardening World* for August 26th (p. 823), and includes C. × Annie Measures, × Hector, × H. Hannington, × Lucienianum, × Mrs. Herbert Measures, × Watsonianum, and × William Lloyd.

The issue for September 16th contains a view in the Dendrobium house in the same collection (p. 41), apparently taken when Dendrobium Wardianum was in bloom.

A very curious flower of Lælio-cattleya × elegans with three lips has been sent from the collection of Captain Law-Schofield, of Rawtenstall, Manchester, by Mr. Shill. It is quite analagous with the form of Cattleya Mendelii figured at page 241 of our August number, though the flower

does not open as well. The peculiarity seems to be quite fixed, for Mr. Shill states that the plant is a strong grower, and that this is the third time which the flowers have come malformed in this way.

A flower of Cattleya Gaskelliana is sent by Mr. C. C. Hurst, of Hinckley, showing a small fly with black and yellow body firmly caught in the stigma. We have more than once seen hive bees in the same predicament, and it seems probable that the bee which fertilises Cattleyas in a wild state is a stronger insect, more like a humble bee. It would be interesting to know more of the insects which naturally fertilise the showy Orchids which are so popular in our gardens.

Cattleya × Hardyana, we believe, generally appears among plants collected as C. Dowiana aurea, but a fine form sent from the collection of J. Wilson Potter, Esq., of Croydon, by Mr. Young, was obtained as C. Warscewiczii, which it certainly most resembles. The petals, however, approach C. Dowiana aurea in shape, and are obscurely mottled, while the lip shows some distinct golden veining on the disc. In other respects, especially in the distinct yellow eyes, it approaches the other parent, except that the colour is richer and darker. It will be interesting to note the range of variation among artificially raised plants of this fine hybrid as they become more common.

A photograph of a fine example of Schomburgkia tibicinis is sent from the collection of Dr. A. W. Hoisholt, Stockton, California. The inflorescence is described as 92 inches long and bore thirteen developed flowers, while one other dropped off unopened. Dr. Hoisholt thinks this worthy of mention, as a plant exhibited at the Temple Show in 1894, to which a Botanical Certificate was given, had only seven flowers (*Orchid Review*, ii., p. 191), and another mentioned at p. 207 of the same volume had a spike only 39 inches long. It is certainly a fine example, but under cultivation this Orchid seldom attains the luxuriance seen in wild specimens, probably because of its large size.

Another photograph represents a fine example of Oncidium luridum, which produced a spike 86 inches long, bearing 67 fully developed flowers, while a number of others dropped off in the bud state, owing it is said to puncture by ants. This also is a magnificent Orchid when seen in its full native vigour, but is apt to be rather unmanageable in small houses or collections of limited extent.

The remarkable Coryanthes macrantha flowered some few months ago in the Kew collection, and it is interesting to note that another plant is now producing a fine scape with two large buds, which will probably have

expanded before these remarks appear. A very graphic account of this species, as found in its native wilds, from the pen of Mr. James Rodway, is given in the third volume of this work, together with a photographic illustration (page 41). The allied C. maculata has also flowered in the collection two or three times during the past summer, the flowers being smaller and more numerous.

A very fine form of Cattleya × Hardyana has appeared in the collection of Col. Shipway, Grove Park, Chiswick. The lip is four inches long, and about typical in colour, and the petals, which are a little mottled, are equally well developed, being 3¾in. long, and broad in proportion.

VARIORUM.—For a long time well-meaning, old-fashioned botanists on the Continent believed that our deeply-lamented Doctor invented the Orchids that he described, and they suggested to their English friends that they should have a look at his fingers! Lindley was greatly amused at this story, and repeated it to me one day as one of his most funny remembrances.—Reichenbach in *Gard. Chron.*, 1866, p. 197.

THE HYBRIDIST.

CYPRIPEDIUM × BINGLEYENSE.

UNDER the above name we have received from Mr. A. J. Keeling, of Bingley, Yorks., a very pretty hybrid derived from C. Charlesworthii and C. × Harrisianum, the latter presumably the pollen parent. It was exhibited under this name at a meeting of the Royal Horticultural Society on August 25th last, but on August 17th it appeared at a meeting of the Manchester and North of England Orchid Society as C. × rubrum. The latter name has been used twice previously for other hybrids, which possibly may have led to the change in the present instance, and, if so, we may remark that in each case the name has had to give place to an earlier one, and was therefore free for the present one. It is a promising acquisition, but not yet fully developed. The dorsal sepal is orbicular, reddish purple, with a white margin into which some rosy veins extend; the petals reddish purple, somewhat tinged with green at the base, and the lip suffused with purple in front. The staminode is obtriangular, ivory white flushed with pink, and with a yellow boss in the centre.

LÆLIO-CATTLEYA × NIGRESCENS.

At the Hybridisation Conference a pretty little hybrid between Lælia pumila ♀ and L. tenebrosa ♂ was exhibited by M. Ch. Maron, under the above name. The same cross was made by Mr. E. A. Orpet, South Lancaster, Mass, U.S.A., in May, 1895, and in August of the present year produced its first flower, when but little over three years old, for the seed

was not sown until June, 1896. Mr. Orpet states that the sepals and petals are pale blush pink, somewhat veined, and less expanded than in L. pumila, which latter parent the lip most resembles in form and colour. It is the first of a batch of over twelve hundred seedlings of various kinds to bloom, but others are approaching the flowering stage.

CATTLEYA LUEDDEMANNIANA WITH FOUR LIPS

A VERY remarkable flower of Cattleya Lueddemanniana has appeared in the collection of J. Wilson Potter, Esq., of Croydon. It consists of two sepals, four lips, and a straight, imperfect column in the centre, which apparently consists of three united styles only, the anther being entirely wanting. The two sepals present are the lateral ones, and the true lip stands in the same relation to them as in a normal flower. The two petals and the dorsal sepal are transformed into lips, though rather smaller than the normal one. That this is what has actually taken place is quite clear, for the middle one of the three additional lips arises from the point of insertion of the dorsal sepal, and the two others from that of the petals. These three additional lips are united for about three lines at the base, which helps us to understand why all have behaved alike. The anther has thus wandered away from its normal union with the column, and has become entangled with the united petals and sepals, and developing with them, has changed all into lip-like tissue, in the same way that two anthers are united with the median petal, and modified into staminodes to form the normal lip. It is a very instructive and interesting flower, and in departure from the normal, a sort of advance on the Cattleya Mendelii figured at page 241.

R. A. R.

CATTLEYA × WHITEI.

ADDITIONAL plants of this handsome natural hybrid have appeared, a particularly fine form having flowered in the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, which received an Award of Merit from the R.H.S., on August 15th last, under the name of Wigan's variety. It came out of an importation made by Messrs. John Cowan & Co., of Gateacre. Another plant has flowered in the collection of S. Gratrix, Esq., Whalley Range, Manchester. It was originally described in 1882, from a unique plant imported by Messrs. Hugh Low & Co., which was said to have been found by their collector, Mr. White, growing on a tree in company with C. labiata and C. Schilleriana (Rchb. f. in *Gard. Chron.*, 1882, xviii. p. 586). Mr. Boxall, however, told me that it was C. Warneri and Schilleriana with which it was found, and as both are now known to be

natives of Bahia, there is no longer room for doubt as to its origin and parentage, for it combines the characters of the two species in the most unmistakable way. The original plant passed into the collection of Holbrook Gaskell, Esq., of Woolton Wood, Liverpool, and was well figured in the *Orchid Album* (iii. t. 115), and in *Gartenflora* (1884, p. 197, t. 1159). The plant is rather dwarf in habit, having stoutish pseudobulbs and rather short, broad leaves. The pseudobulbs, as might be expected from the parentage, are sometimes monophyllous, and sometimes diphyllous. The flowers are most like C. Schilleriana in shape, and C. Warneri in colour, though considerably modified in both respects. One from Sir Frederick Wigan's plant has the sepals $3\frac{1}{2}$ inches long, the petals of the same length, and $1\frac{3}{4}$ inches broad, somewhat undulate, and of a brilliant rose-purple shade. The strongly three-lobed lip is 3 inches long, with the front lobe over 2 inches broad, undulate, and of a brilliant amethyst colour, the side lobes suffused with light purple, and the yellow disc being smaller than in the original form. It is an extremely handsome Cattleya, and seems to be rare in a wild state, so that it would be interesting to cross the two species together, with a view of increasing the stock, as well as of confirming the parentage.

Since the above was in type I have found a record, previously overlooked, showing that this hybrid has also been raised artificially. At a meeting of the Société nationale d'Horticulture de France, held on June 24th, 1897, a hybrid was exhibited by M. G. Mantin, under the name of Cattleya × Russelliana, which had been raised from C. Warneri crossed with the pollen of C. Schilleriana, and which was awarded a Gold Medal; also a First-class Certificate on July 8th following. The seed was sown in July 1892, and the first flower expanded in May 1897 (*Chron. Orch.*, p. 53). It is evidently a form of C. × Whitei, and I should much like the opportunity of comparing the two together.

R. A. Rolfe.

ONCIDIUM × HÆMATOCHILUM.

At last we have some confirmatory evidence of the hybrid origin of this beautiful Oncidium, of which a figure was given at page 273. Messrs. Hugh Low and Co. have flowered three plants out of an importation of O. Lanceanum, and also some plants of O. luridum. This is the only direct evidence we have yet met with so far as cultivated Orchids are concerned, for Mr. Potter's interesting note was based on observations on the plant in a wild state. Considering the various importations of O. Lanceanum that have reached this country, it is remarkable that the habitat of O. × hæmatochilum should have remained so long unknown.

Of course it is now evident that it may occur wherever the two parent species grow intermixed, and on this point we have much to learn. It is, however, practically certain that the original record of New Grenada is erroneous. Williams' *Orchid Grower's Manual* (ed. 7, p. 612) states Guatemala, but we have no evidence that O. Lanceanum grows there. Messrs. Veitch remark:—"Its habitat is virtually unknown to science," (*Man. Orch.*, viii., p. 41), and in the light of subsequent events the correctness of this remark can scarcely be called in question. If the origin of any of the plants that have "appeared at intervals in various Orchid collections in Great Britain," since 1847, has really been known, no one seems to have thought the fact worth recording, and it is a subject for congratulation that the mystery has now so far been cleared up. It also explains to some extent why so beautiful a plant should have remained so scarce in collections, for natural hybrids are generally rare.

PLEUROTHALLIS VILLOSA AND P. CILIARIS.

THERE is a curious little section of the genus Pleurothallis, known as Lepanthiformes, owing to their resemblance in habit to the genus Lepanthes, and to this section the above species belong. A plant has long been cultivated in gardens under the former name, whose identity has been somewhat doubtful, and now materials have accumulated which, I think, enable the matter to be cleared up. In 1838, Lindley described a plant from the collection of Messrs. Loddiges, of Hackney, which was said to have been received from Mexico, under the name of Specklinia ciliaris (*Bot. Reg.*, 1838, Misc., p. 31), which he afterwards (*Fol. Orch.*, Pleur., p. 26), considered synonymous with P. villosa (Kn. and Westc. *Fl. Cab.* ii., p. 78), a Mexican species which flowered in the collection of G. Barker, Esq., of Birmingham, also in 1838. The identity of P. villosa, unfortunately, can only be ascertained from the description, which does not fit the original specimen of Specklinia ciliaris, in Lindley's Herbarium. Another curious fact about this latter plant is that all the wild specimens known are from Guiana and Trinidad, in the former of which it appears to be common, for which reason I believe the Mexican record to be erroneous. It is noteworthy that the five following species described by Lindley were all received from Messrs. Loddiges as natives of Demerara, and it is highly probable that the present one had the same origin. P. villosa was described as having ovate leaves and purple spotted flowers, and a plant answering to this description is flowering in the Kew collection, side by side with the Guiana plant, the latter having been sent home by Mr. E. im Thurn. The

former has ovate leaves, which are dull purple beneath, the ribs of the sheaths all hispidulous or shortly villose, and the greater part of the flowers dull purple, appearing spotted when held up against the light. The Guiana plant has lanceolate or oblong-lanceolate leaves, less purple beneath, the sheaths more distant, less strongly ribbed and not hispidulous, but prominently ciliate at the margin, and the flowers pallid, with the lip purple, and a stain of the same colour on each lateral sepal. As the genus Specklinia has been abolished, the latter species may be called Pleurothallis ciliaris, a characteristic name in view of the strongly ciliate sheaths.

R. A. ROLFE.

ORCHIDS IN SEASON.

LÆLIO-CATTLEYA × ELEGANS is one of the brilliant Orchids which enlivens our collections during the comparatively dull Summer season, and many beautiful forms are now in flower. Cattleya Loddigesii is also very effective, and, together with C. Gaskelliana, C. Warscewiczii, and C. Dowiana, makes a very good show. The beautiful C. × Hardyana is also becoming more common, and various artifically-raised hybrids are becoming more numerous every year, so that it is very doubtful whether in a few years we shall have a dull Summer season at all, so far as the Cattleya house is concerned. Other departments also have a few good things in bloom.

Two superb Cypripediums sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, by Mr. Johnson, are C. × Mabeliæ var. Lord Derby (Rothschildianum × superbiens), and C. × Lady Isabel (Stonei × Rothschildianum), and it is difficult to say which is the more beautiful. The former has shorter, drooping, and more densely-spotted petals, and the dorsal sepal more closely lined, giving the flower a darker appearance, while the latter has spreading, attenuated petals, five inches long, whitish-yellow in colour, less closely-spotted with dark brown nearly to the apex, and in other respects combining the characters of its handsome parents. A superb form of Lælio-cattleya × callistoglossa is also enclosed, and a five-flowered inflorescence of the original L.-c. × elegans var. blenheimensis, which is characterized by its rich purple colour without any tinge of green in the segments. All are exceptionally large, and are excellent examples of good culture.

Several handsome flowers are sent from the collection of T. Baxter, Esq., Morecambe, by Mr. Roberts. A form of Cattleya Dowiana aurea is large and handsome, with clear yellow sepals and petals, and a very broad and richly-coloured lip, without any yellow at the sides. A form

of Lælio-cattleya × Schilleriana almost reproduces Lælia purpurata in the shape of the sepals and petals, but the lip is strongly trilobed, and the front lobe rich purple, a little marbled with white near the apex, and the side lobes suffused with rose-purple at the tips. Other flowers are: a good Miltonia spectabilis Moreliana, Cypripedium Charlesworthii with the front of the pouch missing, the handsome Odontoglossum Uroskinneri, O. bictoniense, O. cariniferum, and three good forms of O. crispum. One of these has all the segments remarkably broad and short, and the lip only very handsomely spotted.

A superb form of Lælio-cattleya × Schilleriana is sent from the collection of R. H. Measures, Esq., The Woodlands, Streatham. It is precisely intermediate between Lælia purpurata and Cattleya intermedia, inclining to the former in size, and to the latter in the shape of the sepals and petals, which are white, faintly tinged with blush. The lip is trilobed, with the front lobe nearly orbicular, beautifully undulate, and of an intense crimson-purple shade, which extends round the margin of the side lobes as a very broad hand, and down the centre of the disc, contrasting very effectively with the white tube. It is one of the best forms of this beautiful natural hybrid.

PHYSURUS ORTGIESII.

This pretty little Anœctochilus-like species seems to have been almost or quite lost sight of during recent years, and it is interesting to record that it has now been re-introduced by M. Florent Claes, of Brussels. It was exhibited by Messrs. Carter & Co., at the Birmingham Show of the Royal Horticultural Society in 1872, under the name of Anœctochilus Ortgiesii, and received a First-class Certificate; a similar award being subsequently made to it by the Royal Botanical Society. Under this name it was described and figured in the *Florist & Pomologist* (1872, p. 243, with fig.). The following year Reichenbach obtained flowers from M. Louis Van Houtte, which showed it to belong to Physurus, and described it under the above name (*Gard. Chron.*, 1873, p. 177). It is believed to have been discovered and introduced by Roezl, from New Granada, where also M. Claes met with it. The leaves are ovate-oblong, of a light olive-green, silvery along the centre, with some oblong, dusky blotches on either side, which has led to its being described as "mackerel-spotted." The flowers are white, and borne in dense spikes. It grows naturally in very humid forests, at 5,500 to 5,900 feet elevation, so that it will probably succeed better in the Odontoglossum house than among Anœctochili.

R. A. Rolfe.

ORCHIDS AT WEST DERBY, LIVERPOOL.

LAST month we described two very interesting collections of Orchids at Liverpool (page 275). Three others are situated in the West Derby district, which we also had the pleasure of seeing.

The collection of R. le Doux, Esq., Marlfield, West Derby, is a thoroughly representative one, and is presided over by Mr. Thomas Archer, who, like its owner, is a most enthusiastic Orchidist, and, under such conditions, one is certain to find many interesting and well-cultivated plants. The plants are mostly contained in four houses, and we may mention the Warm house first, as, owing to the lateness of the Spring, this department contained most in flower. Here we were specially pleased to find the magnificent specimen of Aërides odoratum which we figured last year (page 273) in thriving condition, and again showing for flower. The spikes, forty in number, have since developed, as recorded at page 195. Some curiosity was expressed as to how the plant would behave in future, after the vicissitudes it had experienced, as previously described, but it is still as vigorous as ever, and likely to go on improving. Two plants of Dendrobium Bensonæ were flowering freely, and it was interesting to learn that they have been in the collection since 1892. Mr. Archer states that they are literally deluged with water while growing, but in the autumn they are hung close to a ventilator, still in the same house, and allowed a comparatively dry rest until growth recommences. There were also some very good D. Wardianum received about the same time, and one plant which has been in the collection for twelve years is still as vigorous as ever, which hardly bears out the popular idea that it is difficult to grow. Deterioration evidently arises from improper treatment. Others in flower included D. Parishii and D. nobile, the rare D. cariniferum with eleven good flowering growths, with D. clavatum in bud. The beautiful Diacrium bicornutum was finely in flower, together with a good Phalænopsis Lueddemanniana, and a fine lot of Cypripedes, a group which is strongly represented. Several fine examples of C. barbatum and Lawrenceanum were very effective, also a good C. Mastersianum, a fine dark C. ciliolare, and a number of hybrids, including C. × Louisæ with twin-flowered scape, four good plants of C. × Ledouxiæ, including the original, and three of C. × Daviesianum, which particularly merited notice. Lælia Cowani was developing a good scape from the sheath.

The Cattleya house contains a good selection of the various species, for the most part not yet in flower, with the exception of C. Skinneri, and some good examples of C. citrina, though others, together with Lælias, were in bud. Here were also good flowering examples of Odontoglossum citrosmum, Miltonia Roezlii, and Cymbidium Lowianum, together with

Dendrobium crassinode in good condition, after having been in the collection some ten or twelve years.

Coming to the Cool house we found good examples of Odontoglossum crispum, gloriosum, maculatum, triumphans, and Hallii in flower, while the richly-coloured Ada aurantiaca made a very effective contrast.

Another house, devoted chiefly to Odontoglossums, is a nice light structure, having an iron-work open stage, with a solid stage underneath. Here were many plants of O. crispum and Pescatorei in flower or bud, with some others, also some good examples of Dendrobium Jamesianum, which always remain in the house, and grow extremely well.

Lælia grandiflora (majalis) and L. anceps are grown at the top of a peach house in full sunshine, and are found to succeed admirably. There were about a dozen of the former, one of them showing a fine bud, and it may be added that five plants flowered in the preceding year. The situation seems to form a good substitute for a Mexican house.

The collection contains many examples of good culture, and many features of interest generally, a few of which we have indicated in the above hurried notes.

Another very interesting collection is that of J. W. Arkle, Esq., Holly Mount, West Derby, which we had the pleasure of visiting. Entering the Cattleya house we were immediately confronted with Cattleya Warscewiczii bearing three good flowers, which was rather a surprise so early in the season as May. Near by was Dendrobium Bensonæ flowering in profusion, also D. clavatum and aureum, Lælia purpurata, Epidendrum atropurpureum and E. auritum, Oncidium Lanceanum bearing a good spike, Odontoglossum citrosmum, and a couple of graceful Brassias. Cattleyas generally were looking well, and we were pleased to find the beautiful C. Trianæ Arkleana, which was figured at page 81 of our fourth volume, a thriving plant with six growths.

A small Cool house contained a capital form of Odontoglossum apterum in flower, a good O. Reichenheimii, O. maculatum, and Oncidium Marshallianum, enlivened with the brilliant Sophronitis grandiflora and Epidendrum vitellinum, forming quite a gay little group.

In the Warm house we found Ansellia confusa in flower, and Dendrobium Dearei with two good spikes. Here was a fine plant of Angæcum sesquipedale, and the Dendrobiums, suspended from the roof, and other plants were looking well.

In the Cool house we noticed a good Odontoglossum gloriosum, forms of O. crispum and a few others, the majority here being not yet in flower.

Mr. Arkle does not confine his attention solely to showy species, for interspersed among the latter are various others which are less frequently

met with, and therefore the more interesting on that account. The plants were clean and healthy, and in that thriving condition which shows that their requirements are well understood and provided for by Mr. Arkle's gardener.

Quite close by is the large and well-arranged nursery of Mr. C. Young, where, among numerous subjects which are grown with the skill of an expert, we found a few good Orchids grown in quantity for cut flowers and other purposes.

There is a fine Cattleya house containing, amongst others, a lot of C. Mossiæ, which were beginning to flower nicely, also a remarkable form of C. Mendelii (described on page 242), which is as handsome as it is remarkable in shape. Here, also, was a large healthy batch of Lælia purpurata, of which some fifty or sixty were in flower, and showing the usual amount of variation, one very fine light form having the lip very prettily suffused with light purple. One splendid specimen was three feet across and carried seven fine spikes, and another bore a very stout spike with seven very large flowers.

In another house was an extensive batch of Cypripedium insigne, while Cœlogyne cristata occupied one side of a large house. Odontoglossum crispum was represented by a batch of twelve-hundred, while Dendrobium nobile and Lælia anceps are also grown in quantity, and in the greatest vigour. Plants grown under such conditions generally do well, as their particular requirements can be attended to throughout the year, besides which, Mr. Young has a great liking for these plants, and grows them just as well as others of which he is an acknowledged expert. Our visit will long be remembered with pleasure.

ONCIDIUM MACRANTHUM AND O. HASTIFERUM.

The introduction of an Oncidium from Peru, which is closely allied to the well-known O. macranthum, if not indeed a form of it, has revived the question of the identity of O. hastiferum which was much discussed when the former species was introduced to cultivation just over thirty years ago. O. hastiferum was described by Reichenbach in 1854, from dried materials collected at Loxa by Warscewicz (*Bonplandia*, 1854, p. 102), the chief differences from O. macranthum being the subsessile petals and some characters of the lip and crest. Whether Linden intended the same plant by his O. macranthum var. hastiferum (*Gard. Chron.*, 1867, p. 17) is not clear, and Messrs. Backhouse, shortly afterwards, asked on what authority it was so named? Also whether it was not the typical macran-

thum? (*l.c.*, p. 54). At all events, O. macranthum var. hastiferum was shortly afterwards figured in the *Floral Magazine* (1868, t. 386), and again in the *Gardeners' Chronicle* as O. macranthum (1869, p. 739, with fig.), with the note that it was distributed under the name of O. macranthum hastiferum, being then identified with O. hastiferum, Rchb. f., from which, however, it seemed to differ.

In 1871 Reichenbach wrote respecting O. macranthum hastiferum:—"The unfortunate name of hastiferum was given, if I remember right, to the best variety. It gave rise to the suspicion that my 'hastiferum' was the same plant, though that is quite as distinct from hastiferum as a rhinoceros from a hippotamus, since it has an erect blade on its anterior lip . . . . There is scarcely any doubt that the hastiferum is what was originally intended for macranthum, which was gathered by Ruiz and Pavon" (*Gard. Chron.*, 1871, p. 1129). How far these remarks are correct can only be certainly ascertained when Reichenbach's Herbarium is opened, some fifteen years hence. It is true that he sent to Lindley a rude sketch of a single flower which agrees with nothing that I have seen, not even with a flower from Warscewicz himself, which otherwise I should have taken as true O. hastiferum, Rchb. f. It is also recorded that Mr. Skinner "had, at some former time, received O. macranthum in quantity from that enterprising collector, Warscewicz," which he considered different from the plants sold by M. Linden (*Gard. Chron.*, 1866, p. 1245). My own impression is that the rude sketch above alluded to is incorrect in detail, and that the flower from Warscewicz represents O. hastiferum, Rchb. f., and the more so as this agrees with a plant which has just flowered in the collection of the Right Hon. J. Chamberlain, M.P., at Highbury, which is not quite the ordinary O. macranthum known in gardens, though apparently a form of it—at all events the dried specimens have hitherto been so considered.

Living flowers of O. macranthum are not now available for comparison, or it would be easier to say whether the differences observed may not be attributable to the variation of a single species, as I am inclined to think.

It seems almost incredible what an amount of confusion has been introduced into the history of O. macranthum. To the present day the habitat is given as "New Grenada" in Williams' *Manual*, and Messrs. Veitch remark:—The first notice of it as a horticultural plant occurs in the horticultural journals in 1868, in the spring of which year it flowered for the first time in this country, in the collection of Lord Londesborough, at Norbiton, and shortly afterwards at Farnham Castle, and in our Chelsea nursery. No indication is given of the origin of these plants, which were doubtless all imported at the same time" (*Man. Orch.* viii., p. 59.). The fact is, that during the two previous years (1866-7), at least eight different communica-

tions appeared in the *Gardeners' Chronicle* respecting the plant, and in view of the above remarks a few extracts will be interesting.

First, it was mentioned by "J. A.," in an article on Mr. Bateman's Orchids, where the habit of Odontoglossum angustatum is compared with that of O. macranthum, which is "exciting so much attention now" (1866, p. 1143), and this elicited a reply from "T. H." Gravelly Hill, Birmingham, on the same subject (*l.c.*, p. 1194.) J. A. now wrote:—"We have several plants at Meadow Bank which have been guaranteed as the true Oncidium macranthum, and we have several others of unnamed species which look so similar in pseudobulb and young growth, as at the present stage to be almost undistinguishable. Of course it has never bloomed in this country, but if the inflorescence be at all approaching to the grandeur of the sketches I saw at Stevens' Rooms, it will be one of the brightest gems of our Orchid stoves. . . . Coming as this does from Ecuador, at an altitude of 11,000ft. above sea-level, it is likely to succeed in a moderately cool temperature" (*l.c.*, p. 1221). The former correspondent (now "J. H.") then replied:—"Like many other Orchid growers, I take an occasional run up to Stevens' Orchid sales, and more than once was a purchaser of what was represented to be Oncidium macranthum. On my last visit there, some twenty lots were offered for sale. . . . Just in the nick of time, Mr. Skinner came in, and seeing the first lot sold . . . he asked if they were warranted, and openly asserted that they were Odontoglossum coronarium. In proof of the truth of his assertion he said that he had at some former time received O. macranthum in quantity from that enterprising collector, Warscewicz. . . . It was distinctly stated in the catalogue that O. macranthum was a most difficult Orchid to introduce, not more than 25 plants having arrived alive . . . " (*l.c.*, p. 1245).

M. J. Linden next sent a communication on the subject, remarking:—"The various articles which have appeared . . . seem to render confusion worse confounded, and Oncidium macranthum runs a risk of being considered a myth. . . . Now it happened by chance that between the two sales a new consignment of the same Orchid arrived, and in better condition than the preceding one, and this explains how it was that the last sale was enriched by some ten lots (*une dizaine*) which were sold for a mere song in consequence of the doubts that arose among the purchasers present. In order to re-assure purchasers, I consider it my duty to declare that the Oncidium macranthums sent by me to Stevens are not only true, but that they belong to the most brilliant variety of that most noble species, a variety which I have called hastiferum. . . . I will add that a specimen of O. macranthum is now in bud with me, and that those who are incredulous may soon be convinced *de visu* .. . . (*l.c.*, 1867, p. 17).

Messrs. James Backhouse & Son, of York, also wrote on the same

date:—" . . . Whatever some of the plants sold by Linden at Stevens' Rooms for Oncidium macranthum may be, all are not true. We bought one as O. macranthum, with a smooth, conical bulb; it is now in bloom, and is not O. macranthum, but (apparently) O. serratum, a species nearly allied in habit, but with totally different flowers. . . . We may add that none of the plants sent home to us by our collector from Eucador have the long rhizome. . . . Along with these plants an excellent coloured drawing from Nature was sent, which was at once identified by Professor Reichenbach as O. macranthum. . . . Patience will reveal much, and we may briefly state that it will not (apparently) have to be severely strained in regard to the plant we have imported as O. macranthum, as one of these already shows a flower-stem."—(*l.c.*, p. 17).

To the latter communication, M. Linden replied:—" I learn with regret that the eminent firm of Messrs. Backhouse & Son have experienced some disappointment. As to Oncidium macranthum, it is probable they may have received plants of this species which were sold at Stevens' in 1865, procured from the slopes of Chimborazo, and belonging to the typical form of the species, the pseudobulbs of which differ from those of the variety hastiferum, and have some resemblance to those of an Oncidium allied to O. serratum, and derived ftom the same locality. . . ."—(*l.c.*, p. 29).

Messrs. Backhouse now asked:—" . . . May it not prove that the so-called 'typical form of the species from the slopes of Chimborazo' belongs to another species altogether, as ours, now in bloom, certainly is, and that the var. hastiferum is the true (*i.e.*, typical) macranthum?"—(*l.c.*, p. 54).

This question can scarcely be answered satisfactorily even yet. But Reichenbach stated that both M. Linden and Messrs. Backhouse had submitted to him dried flowers of the true O. macranthum. Whether the spikes which they each alluded to as showing reached maturity may be doubted—unless indeed they proved untrue to name—for it was not until early in 1868 that it flowered in the collection of Lord Londesborough, according to the records, for the first time in cultivation, and on March 2nd it was exhibited at a meeting of the Royal Horticultural Society, and received a First-class Certificate. It is now well known that it grows with other species so similar in habit that they can scarcely be distinguished when out of flower; in fact, they have repeatedly been imported and sold for it, and the mistake has not been detected until they flowered.

Thus this beautiful Orchid has a rather curious history, and there is more respecting it yet to be learnt.

R. A. Rolfe.

ORCHIDS AT TIXALL LODGE, TIXALL, STAFFS.

HERE, at Tixall Lodge, the pretty residence of E. Bostock, Esq., is a very neat, compact, and well-grown collection of Orchids. There are five departments alloted solely to their cultivation, including warm, intermediate, and cool temperatures, and the most popular species and varieties are well represented. A good many hybrids are also to be noted, several of which have been raised here and which are growing on in their various sizes, according to age, some having attained almost flowering size, whilst others are still babies in thimble pots.

The object of the present note is chiefly to mention a few special features with which we were much impressed on our recent visit. The most prominent of these, perhaps, is a magnificent batch of about a dozen plants of Oncidium Londesboroughianum in the very finest condition, and producing flower spikes freely. Never before have we seen this species doing so well and looking so thriving. Although old-established plants, there seems no signs whatever of deterioration; on the contrary, this year's pseudobulbs are equally as large and fine as any made previously. In our experience with this species we have found it succeed best suspended in a light position in the Cattleya house, or, perhaps, better still in the Mexican house, and have recommended such positions, yet here they are seen growing away without the slightest trouble in pots on the stage in an ordinary Cattleya house, retaining their leaves fresh and perfect, surrounded by the ordinary inmates of such a house, and in receipt of similar treatment. We tried to ascertain why they should do so uncommonly well in this particular house, but could detect no special reason. A piece of elm wood with bark was simply made fast in a pot, and on this the plant was fixed, a surfacing of compost being placed over the crocks, as in the usual practice. Adjoining the above was a splendid batch of Miltonia spectabilis Moreliana in bloom, some of which were magnificent in size and richness of colour.

A very fine batch of Cattleya Harrisoniana also stood out conspicuously, most of which were tip top varieties, but one so far outstripped the remainder as to suggest that it was a flower of some other species; it would not discredit the beautiful Cattleya superba, so large and well shaped, and of such substance and brilliancy of colour was the bloom. There is something peculiar, too, about the pseudobulbs and leaves that would almost lead one to the conclusion that it might by a natural hybrid.

But the finest species seen in bloom was, we think, a batch of Cattleya Eldorado. Here were several fine, healthy specimens of the beautiful Cattleya Eldorado Wallisii, in full flower, and the symmetry of the bloom, the pure whiteness of the sepals and petals, and the intense richness of the

orange of the labellum left nothing to be desired. Another lovely variety was noticeable, varying only on account of its sepals and petals being slightly suffused with rose colour, and far superior to any of the varieties called crocata rosea which we have seen. Another variety was remarkable for its flowers being evenly and regularly dark in colour throughout, except, of course, the labellum, which was orange. Taking them altogether, they are varities which Mr. Bostock and his gardener, Mr. Bailey, may well be proud of.

H. A. B.

SACCOLABIUM CALOPTERUM.

THIS handsome Saccolabium has hitherto been known from description and dried specimens, and it is therefore interesting to record that a plant which has just commenced to flower in the Kew collection proves identical. The species was described from dried specimens, in 1882 (*Gard. Chron.*, 1882, xviii., p. 520), by Reichenbach, who remarked :—"This may be a beauty. The flowers are much like those of Vanda cœrulescens. They appear to be rich purple, and are probably white at the base of the sepals and petals. The inflorescence is a panicle. It was discovered in New Guinea by the Rev. Mr. Macfarlane, and the specimens at hand come from Messrs. Veitch." Dried specimens collected by Burke between the south coast and Owen Stanley Range, and sent to Messrs. Veitch, evidently agree with the description, as does also a photograph and dried raceme sent to Messrs. F. Sander and Co., by Mr. Dixson, of Sydney, which had also been obtained from New Guinea. It had been taken for a Renanthera, and in habit may be compared with R. Imschootiana, except that the leaves are very fleshy and about seven inches long, linear-oblong, and recurving. The inflorescence is a branched panicle, the largest dried one being about eighteen inches long, and bearing over a hundred flowers, of a brilliant magenta-crimson, approaching the colour of Broughtonia sanguinea, and measuring $1\frac{1}{4}$ inches across their broadest diameter. The lateral sepals are narrowed at the base, and appressed to the sides of the spur, but suddenly dilated above, where they overlap above the inflated apex of the spur, forming a broad landing-stage on which insects may alight. The mouth of the spur is quite oblong, margined by the dwarf broad side lobes of the lip, the front lobe being very small and recurved. The spur is $\frac{1}{2}$ inch long, and constricted behind the inflated apex. It seems to have a good constitution, and a well-flowered plant would present a very handsome spectacle.

R. A. ROLFE.

ODONTOGLOSSUM × CORADINEI MIRABILE.

On June 12th, 1894, a very remarkable Odontoglossum from the collection of Baron Sir H. Schröder, The Dell, Staines, was exhibited at the Drill Hall, Westminster, under the name of O. crispum mirabile, and received an Award of Merit. It was subsequently figured in the *Gardeners' Chronicle* (1897, xvi. pp. 248, 249, fig. 36.). Although ranked as a form of O. crispum, with which species it was doubtless imported, it was obviously something quite exceptional, and, after examination and comparison, it was described under the name of O. × Coradinei mirabile (Rolfe in *Orchid Review*, ii, p. 198), a fact which appears to have been overlooked when the figure

FIG. 16.—ODONTOGLOSSUM × CORADINEI MIRABILE.

appeared. Though exceptional, even among forms of O. × Coradinei, the determination has been accepted, and the plant—which was included in the Baron's magnificent group at the Temple Show in 1897—again appeared at the Drill Hall, on May 16th of the present year, under its present name, and received a First-class Certificate. The annexed figure represents one of the flowers, natural size, and is reproduced from a photograph taken by Mr. G. I'Anson, of Bush Hill Park. It shows at a glance its remarkable character, and also the combined characters of O.

crispum and O. Lindleyanum, though the influence of the former is more pronounced than usual. Generally speaking, the influence of O. Lindleyanum preponderates, for which reason many forms of O. × Coradinei are not very highly prized. Some, however, are good, though nothing which we have yet seen approaches the present one. It is this exceptional character which has given rise to a suggestion that it may possibly have arisen from the re-crossing of O. × Coradinei and O. crispum. We do not yet know what such a cross would produce, but at present it seems more probable that the crispum parent was exceptionally large, or that it obtained a preponderating influence. The Lindleyanum character is apparent enough in the photograph, but still more so in the characters which would have been brought out by a side view, and in the substance of the fresh flower. It remains to be added that the ground colour is ivory-white, the markings cinnamon-brown, and the crest and disc bright yellow streaked with brown. Baron Sir H. Schröder must be congratulated on the possession of such a gem, which is very aptly named.

ANSELLIAS FROM THE CONGO.

An interesting article by M. Em. Laurent, under the above title, appears in the September number of the *Revue de l'Horticulture Belge*, accompanied by coloured figures of the two species found in the Congo district, namely, A. confusa and A. congoensis. They are nearly allied, but the latter has much smaller and more numerous flowers, and their geographical distribution is also distinct. On this point the author remarks as follows:—

"Ansellia congoensis is localised at the mouth of the river. Until lately, it was very abundant on the trunks of Elæis, and especially those of Hyphæne guineensis, on the isle of Mateba and in the neighbourhood. Large quantities have been collected during the last twenty years, and the species has become rare since the time of my first journey in 1893. It should be noted that at the mouth of the river a savannah climate prevails, with a dry season of five or six months.

"Ansellia confusa, discovered originally in Sierra Leone, and afterwards at Fernando Po and in Angola, inhabits several different districts of the Congo basin. I have seen it many times in the forest of Mayombe and in that of Massamba, along the old caravan route. In 1895-1896, I again found it along the Kassaï and the Sankuru, and also on the rivers of the Lualaba-Congo, and above Stanleyville. The distribution of this Orchid is thus very great, while that of Ansellia congoensis appears to be very small."

CULTURE OF ODONTOGLOSSUM CRISPUM.

ODONTOGLOSSUM crispum is undoubtedly our most popular Orchid. It may not exist in a greater number of collections than some others, for it will not succeed where a few warm Orchids are cultivated as ordinary stove plants, nor will it thrive long in an ordinary greenhouse, like Cypripedium insigne, but it is, at all events, the most plentiful in the majority of collections, and one might suppose that by this time we had learned how to cultivate it. But have we?

Mr. W. Swan, of Bystock, not long ago, (*Gard. Chron.*, 1898, xxiii, p. 164) called attention to the fact that on several occasions some six thousand, eight thousand, fifteen thousand, and yet other large consignments of the Pacho varieties of O. crispum have been sold at Messrs. Protheroe & Morris' rooms in Cheapside; which should set one wondering whether the stock of O. crispum is so near exhaustion as we were led a few years ago to believe, or whether the collectors are endeavouring to make a clean sweep for the time being.

"I remember well," he remarks, "Mr. H. Blunt coming down from the Messrs. Low & Co., of Clapton, to Mr. J. Day's, to inspect the different species of Odontoglossum then included in the collection, so that he might see O. nævium and O. Pescatorei, of which there were just two plants of each species in the collection at that time." He also alludes to the splendid O. nævium from the Warner collection (*Warn. Sel. O.*, i., t. 7), and O. Pescatorei from Messrs. Veitch (t. 25), and a plant there mentioned of the latter, in the collection of T. Dawson, Esq., of Meadowbank, that had "borne branched spikes with fifty flowers." These are mentioned, however, "to show the great rarity of the finer varieties of Odontoglossums when the first collectors went to Bogota, the region of the Magdalena river, the Pacho district, or any other spot likely to reward their quest.

"Since that time what enormous quantities have come over, of both O. crispum and Pescatorei! And to-day the question naturally arises, where are they? Are the finest plants now met with those that have been under cultivation for ten, fifteen, or twenty years? Can many collections show good specimens of the plants that H. Blunt sent over? Or are there many pieces still in culture which Chesterton collected? I fear not; most of those early ones grew well for a time, then not quite so well; then may be the plants changed ownership, or a fresh grower had them in charge, and so on, occasional improvements taking place with recurring relapses, until a fresh consignment gave opportunity for the purchase of 50, 100, or a greater number; then the collection was considered to be improving, because the cultivator had in his hands a number of the plants possessed of natural vigour, that he did his utmost to develop, and with some little knowledge,

achieved better results, that extended over a considerably long period of time.

"But are these two species even now so universally well grown as to lead one to say there is nothing more to be learnt? It would certainly seem to me there is yet something that cultivators may learn; but the crux of the matter is, what is that particular treatment which is so essential to the continued well-being and constant improvement of these plants? I venture to say that most growers can remember good collections that have come under their observation, or fine housefuls of which they have had charge, but when dispersed what has become of them? or if a collection has remained intact, do the original plants still exist? Whether it is the houses in which the plants grow (and these vary enough in many gardens), or the special kind of treatment afforded the plants, there would still be the lack of a certain method of treatment whereby uniformly good growth and vigour can be assured.

"It is certainly worth while inviting an expression of opinion from some of the leading Orchid-cultivators of the country which might throw light on this matter, especially as to the aspect of houses, whether span-roof, lean-to, or half-span, the kind of staging, or bed on which to place the plants, dealing also with moisture, shading, syringing, and all other essential points. The subject of earth *versus* stone or tile-floors: of open rain-water and water-tanks. In the interest of the thousands of plants of Odontoglossums now passing into the hands of many who have not as yet had much experience with these lovely plants, some such expression would, I venture to say, be most acceptable, and likewise be of assistance to the older practitioners, enabling them to decide if the term degeneration is the correct one to apply, or whether it be not natural decay that is brought about by unnatural treatment."

These are pertinent questions, and a more recent discussion suggests the query whether we really understand what we are pleased to term "the requirements" of the plant. Mr. W. H. Young, of Clare Lawn, East Sheen, the other day remarked:—"In comparison with the number of growers of this popular species, those who attain satisfactory success are exceedingly few. A mistake frequently made by cultivators is that of treating the plants rather as if they were aquatics than plants which grow naturally on trees more or less bare. Complaints have been frequent this season that Odontoglossums have shrivelled greatly, owing to the unusually hot weather, and in attempting to remedy this, many growers have given the plants too much water and shade, which, I believe, has more often than not defeated the end in view. An excess of moisture in the pseudobulbs is decidedly disadvantageous to the plants, but a little shrivelling is more a blessing in disguise than an injury. Now that cooler conditions prevail,

the pseudobulbs will soon regain their former plumpness, and commence to root anew."—*Gard. Chron.*, September 2, p. 188.

Another correspondent replied that these "excellent remarks" induced him to describe his own method of treatment, and the course of reasoning which led to its adoption. "In the first place, as this plant grows at an altitude of 8,000 feet, it must always be in a free air, and as the vapour-laden clouds rise to that height they become condensed, and descend in copious showers upon the plants frequently, but not constantly; and not at any time can the showers be warm. One could not imagine such a thing as a spike of bloom becoming spotted and disfigured, as one has often seen them in Cool Orchid-houses. As I grew my own plants, and had not to please another's fancy, a bold method was adopted with marked success. The essential points are: air is always admitted (except in a wind frost), and especially by low ventilators opposite the hot-water pipes, with sufficient top-ventilation to keep the air of the house in movement. Under such conditions damping-off is unknown. What I am now about to mention will no doubt raise a chorus of surprise and dissent. All the watering the plants get is from the cold hose-pipe once or twice a day, to imitate the cold showers they get in their native habitat. This is given overhead, as if they were so many cabbages. If the sheaths at the base of the pseudobulbs are full of water, they are left so; the free ventilation puts that matter right, and the material in the pots is never soaking wet, as though we were attempting to grow bog plants. It is remembered that Odontoglossums naturally grow on trees, and can only get such water as falls from above. Keep the ventilation free, not so free as in an Orchard-house, of course, but be bold, and all will be well. Do not coddle your plants as regards temperature, but keep it down to 60° in the summer if you can; and should it fall to 35° on a winter morning, do not faint with fright —your plants will not die, if all other conditions have proper attention."
—T.L.C., Sept. 9, p. 202.

A *Young Gardener* was now not unnaturally somewhat perplexed, and "a little in doubt as to the kind of treatment the species requires during the summer months," remarking further that "the above opinions seem to me so conflicting that I would like to solicit the advice of other cultivators of Odontoglossums."—Sept. 16, p. 231.

The important article by Mr. Robert Thompson, entitled "Odontoglossum crispum at Pacho—the natural conditions under which it grows," published at pages 297-298 of our last volume, will be read with interest in this connection, for it seems that there is still much uncertainty as to the requirements of this beautiful species under cultivation.

LÆLIO-CATTLEYA × REGINÆ.

At page 313 of our fifth volume a pretty hybrid, raised by Mr. James Cypher, of Cheltenham, between Lælia purpurata ♀ and Cattleya Forbesii ♂ was described, under the name of Lælio-cattleya × Cypheri. Shortly before this, however, we find that a similar cross, raised by Mr. G. Mantin, was exhibited at a meeting of the Société Nationale d'Horticulture de France, on July 22nd, 1897, under the name of L.-c. × Reginæ (*Chron. Orch.*), p. 55.

Still earlier a hybrid from C. intermedia ♀ and L.-c. × elegans Turneri ♂, from the collection of C. Ingram, Esq., was exhibited at a meeting of the Royal Horticultural Society as L.-c. × Regina (*Orchid Review*, v., p. 62), though the fact that this very hybrid had previously been exhibited as L.-c. × Cicero (*Orchid Review*, iv., p. 62) prevents its adoption, and the scarcely different name of L.-c. × Reginæ should therefore be adopted for the present one.

The reverse cross has now been raised by Mr. T. Spencer, Goodrich Court, Ross, Herefordshire, the seed having been obtained from C. Forbesii crossed with the pollen of L. purpurata. The pseudobulbs, leaves, and spathes, however, closely resemble the pollen parent, except in being rather smaller, while the flowers are fairly intermediate. The sepals and rather broader petals are lilac-rose, with darker veins, and the lip tubular, orange-yellow, with dark reddish veins, as in the seed-bearer, with the apex of the three lobes purple. It is very similar to the original hybrid, and, of course, will bear the same name.

HABITATS OF INDIAN CYPRIPEDIUMS.

Are we on the eve of some important discovery with respect to the habitats of the Indian Cypripediums? Those who remember the facts recently brought together in these pages (*O.R.*, v., pp. 51-2; vi., p. 76; and vii., pp. 172-3) will admit that there are good grounds for such a query. And now an additional fact bearing on the same question may be recorded. Mrs. Colston, Roundway Park, Devizes, purchased some imported plants as Cypripedium insigne montanum at one of the sales at Messrs. Protheroe and Morris' Rooms, and one of them, which has now flowered, proves to be C. Spicerianum. Whether the two actually grew together is more than I can say, but if so, it would explain the record of the occurrence of C. × Leeanum as a wild plant (*O.R.* vi., p. 76). Even more important in some respects is the full identification of the doubtful C. × Arthurianum, said to have come in the same importation, for is not the mysterious C. Fairrieanum one parent of the latter hybrid? The occurrence of C.

hirsutissimum in the same importation is, perhaps, not without significance in this connection. Lastly, if the recorded occurrence of C. × Sallieri in the Khasia Hills (*O.R.*, v., p. 52) is correct, C. villosum ought also to occur there, a point which it would be interesting to have confirmed.

R. A. R.

CYPRIPEDIUM × SHILLIANUM.

WITH reference to our note of the above at page 253, Messrs. Charlesworth and Co., Heaton, Bradford, write that it was not derived from C. Lawrenceanum and Rothschildianum, as suggested, but from C. × Gowerianum and Rothschildianum, and was raised in their establishment. We know that Messrs. Charlesworth's records are very carefully kept, and as C. × Gowerianum is half Lawrenceanum, the resemblance to that species seen in C. × Shillianum is easily accounted for. The influence of the other parent of C. × Gowerianum, namely, C. Curtisii, is not so apparent in C. × Shillianum as might have been expected.

CALENDAR OF OPERATIONS FOR OCTOBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

THE temperatures of the different departments should now be kept about the following figures, of course allowing a few degrees fluctuation in accordance with the conditions of the weather outside :—

COOL HOUSE.—Day, with sun, 60° to 65°; without sun, 55° to 60°; night and morning, 50° to 55°.

INTERMEDIATE HOUSE.—Day, with sun, 70° to 75°; without sun, 60° to 65°; night and morning, 55° to 60°.

STOVE OR EAST INDIAN HOUSE.—Day, with sun, 75° to 80°; without sun, 65° to 70°; night and morning, 60° to 65°.

The very beautifully long and—for Orchids—most beneficial summer is now a thing of the past, and with October we shall, no doubt, receive various samples of more or less dull, wet, cold, and wintry weather, reminding us of what we may expect in the near future, and our system of cultivation should be shaped accordingly. The heating apparatus will now play a most important part, and, if not already done, no time should be lost in oiling and packing the valves, and seeing that they are in thorough working order.

HEATING.—Artificial heat will now be required in the Warm and Intermediate houses for the greater part of the time. Make a practice of having at command all that is necessary, but never more, for too much is as

harmful as too little. There may still be many days when the fire may be either let out altogether or so kept down as to give off scarcely any warmth; and there will doubtless be many nights when a very small amount of fire heat will be sufficient to maintain the temperatures at the requisite degrees. The Cool house should not have the heat turned on whenever it is posssible to keep up the degree of warmth without it, unless it is with a view of helping to dry up a too moist and stagnant atmosphere.

VENTILATION.—A good deal of care must still be given to this most important work. Orchids grow the strongest, healthiest, and most robust in houses that are kept pure and sweet by a free circulation of fresh air, without draughts, and the worst and weakest in penned-up, stuffy ones. It is therefore advisable to have on air, little or much, as often and as long as possible. Beware, however, of using the top lights too freely now, but work more upon the bottom ventilators.

DAMPING-DOWN.—Probably there is no other month throughout the year when less water is required for damping-down purposes, and this for obvious reasons. Firstly, many plants have completed their growths, and desire to be at rest, whilst others, which have no apparent season of rest, require to be hardened somewhat before the advent of winter. Secondly, the atmosphere outside is now heavily charged with moisture, and does not absorb the same from the interior of the houses. And thirdly, sufficient artificial warmth is scarcely yet necessary to unduly dry or impoverish the atmosphere, like it does for instance during the time of severe frosts. Such being the case, it will be seen that little water need be distributed this month, and that the weather should be the sole guide for doing so. It may be required once a day or not at all. For my own part I now make it a practice of never damping my coolest house during this season, but let that suffice which it receives when watering the plants.

WATERING.—This work must also be done with greater care, and be more thoughtfully considered than hitherto, and for the very same reasons as those given above. In fact, it is very easy to over-water at this period, much more so than in the depth of winter, when very sharp frosts prevail, because then, owing to the greater amount of fire heat, the compost dries more quickly. It is scarcely possible to say *how often* to water, as the conditions and circumstances of each plant vary so much, but I may mention that all deciduous species, like many Dendrobiums, the Catasetums, Mormodes, Cycnoches, Chysis, Cyrtopodiums, Thunias, Barkerias, Anguloas, Ansellias, and similar growing species, may now be allowed to get very dry, receiving enough moisture only to keep the pseudobulbs plump, and for this less and less will suffice as the season advances. For species such as Cattleyas, Lælias, Oncidiums, Odontoglossums, Cœlogynes, Epidendrums, Lycastes, Maxillarias, Stanhopeas,

Trichopilias, and other similar growing kinds which have completed their new pseudobulbs, I also recommend a very dry treatment from now henceforth throughout the winter, though, of course, they must not be expected to withstand quite so much drought as the afore-mentioned deciduous kinds. What one has to watch in this matter of affording water during winter is to see that each plant gets enough to keep the pseudobulbs in a perfectly plump and healthy condition, and if the department be not overheated, a very little will be found sufficient.

Coming now to those species having no such marked season of growth and rest, but which are on the move more or less the whole time, I still advise comparative drought during the coming winter months. I refer to such species as the Cypripediums, Sobralias, Vandas, Zygopetalums, Saccolabiums, Pescatoreas, Phaius, Phalænopsis, Renantheras, Miltonias, Masdevallias, Dendrobiums Dearei and Brymerianum, Cymbidiums, Cochliodas, evergreen Calanthes, Angræcums, and Aërides, with any of the Oncidiums and Odontoglossums that are in active growth. The whole of these must have sufficient moisture at the roots to enable them to keep moving steadily on, and to keep the foliage in a green, plump, and healthy condition. If the plants are healthy, which implies, of course, that they are well rooted, a very little water henceforth will suffice. My object in mentioning these various kinds in detail is to indicate approximately the amount of water suitable for them.

SYRINGING.—The practice of over-head syringing with tepid rain water, which is followed by such good results during the growing season, must now be abandoned in all departments, or it may do more harm than good. Scale-insects, however, in their various forms, will increase faster in consequence, and the plants should consequently be looked over and cleansed when necessary with some approved insecticide.

SPOT.—Black spots on the foliage are contracted doubtless in a variety of ways, but the most prolific source must be attributed to a superabundance of moisture, partly created by faulty ventilation and partly by an insufficiency of warmth in the pipes just at the very time when most needed, which allows an excess of moisture to condense upon the foliage, soon producing in its turn minute growths of a fungoid nature. The above causes are also very conducive to rot taking place, but this last-named malady will sometimes appear in isolated cases when the houses are under the most approved management. A bruise, followed by water lodging about the same, frequently results in the rapid decay of the newly-formed pseudobulb. When seen in time, the decayed portion should be cut clean away with a sharp knife, so that the air can have free access, which will mostly prevent further mischief. Growers of Cattleya Dowiana aurea and Cattleya labiata will probably be well rewarded if they keep a sharp look

out for rot immediately the flower spikes are cut, for it then not infrequently attacks them by the moisture lodging about the stem of the flower spike. The only safe plan to adopt is to pull away all the remaining portion of the sheath, and cut off the stem of the spike as close to the bulb as possible.

SHADING.—The blinds, unless required for a winter protection against cold, should during this month be dried and stowed away in a dry place for the winter. Most of the plants will now enjoy the full rays of the sun, though it may still be advisable to be careful regarding any cool Odontoglossum that may chance to occupy a department with a southern aspect. Also the beautiful genus, Phalænopsis, is very susceptible in this respect, and may easily be injured by too much bright sunshine even at this late period, for its fine, broad, fleshy leaves present a large surface on which the hot rays speedily act.

POTTING.—This work should now cease. Winter potting, I am confident, is not a safe thing to adopt, excepting in the case of plants that are newly imported, which, of course, must be done up. Even for these it is scarcely politic to use good and valuable materials at this late season, and they will grow just as well, and perhaps establish themselves more quickly, if simply propped up in their pots, with a few crocks about their roots to keep them steady. Certainly, if so treated, larger supplies of water could be administered, because it could the more readily pass away. The compost could easily be supplied later on, after the pseudobulbs have regained their plumpness, and are about to tend forth new roots more abundantly.

SUITABLE POSITIONS.—No pains should be spared in selecting for each plant the best and most favoured position for the Winter, which may or may not vary from that occupied during the Summer months. Select the roof principally for those to be rested and dried the most, the driest end for those quite dormant, and the moistest for those still growing, or the sunniest or shadiest parts as the case may demand. Even the removal of various species from one house to another is often done with satisfactory results. For instance, owing to the want of space, or some other cause, many growers place some species in the coolest house during Summer, but are careful to remove them back to intermediate temperature for the Winter, and such treatment invariably answers well, especially if the latter department is required to be kept rather warmer for certain things, like Cattleyas or Dendrobiums, during the Summer. I may here enumerate a few species which are the better for such change of houses :—Ada aurantiaca, all those Oncidiums that are known as cool-growing kinds, Cymbidiums, Odontoglossum grande, O. hastilabium, O. cirrhosum, O. citrosmum, O. cordatum, O. Harryanum, O. Insleayi, O. maxillare (madrense), O.

nævium, O. Krameri, the whole of the Masdevallias, but particularly M. tovarensis, M. ephippium (Trochilus). M. Shuttleworthii, M. macrura, all the Chimæra section, the cool-growing Lycastes, Sophronitis grandiflora, and the Pleiones. The vacant spaces thus created in the cool house might conveniently be filled during the Winter with the cool-resting Dendrobiums mentioned last month.

Lælias pumila and Dayana are just now showing for bloom. These also do well in the Cool house during Summer, but should now be removed to the Intermediate house, where the flowers will come much finer. The deciduous Calanthes are now commencing to push up their spikes. Keep them still in a nice warm temperature, but reduce the supplies of water, as they will not now require very much. Those of the Mexican Lælias that are producing their flower spikes should still have a sufficient amount of water until they bloom, or the strain upon the plant will be very great. Cattleya Lawrenceana, always a late one to form its new pseudobulbs, should now occupy the warmest department to enable it to do so quickly, as also should any late plants of C. superba and C. Eldorado.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING was held at the Coal Exchange, Manchester, on September 7th, when the following members of the committee were present:—Messrs. G. Shorland Ball (in the chair), W. Duckworth, Charles Parker, R. Johnson, and P. Weathers (hon. sec.).

W. Duckworth, Esq., Shaw Hall, Flixton (gr. Mr. Tindall), showed Cattleya Lueddemanniana (speciosissima) alba, a very rare and beautiful albino, to which a First-class Certificate was given.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Vanda Sanderiana, with a magnificent spike of bloom (First-class Certificate), and Cattleya Lueddemanniana Ernestii.

Mrs. Briggs-Bury, Accrington, showed Cypripedium × Leonæ and Odontoglossum crispum Lehmanni.

Messrs. Charlesworth and Co., Bradford, showed Lælia × Iona (L. tenebrosa × Dayana), a pretty intermediate form, Lycaste Denningiana, a very pretty flower too seldom seen (Award of Merit), Lælio-cattleya × Admiral Dewey, a very beautiful hybrid (First-class Certificate), Houlletia Brocklehurstiana (Award of Merit), and a form of Cypripedium × Mabeliæ called Mrs. Harry Smith (Rothschildianum × superbiens), a very fine and handsome hybrid, to which an Award of Merit was also given.

Mr. A. Keeling, Bingley, showed a handsome Lælio-cattleya × Schilleriana, a form with a very dark and beautiful labellum, and the petals

splashed with rose, Cypripedium Lawrenceanum, and a handsome hybrid derived from C. superbiens × Morganiæ, having the dorsal sepal almost of the seed parent, but the petals drooping and much spotted as in the pollen parent. It received an Award of Merit.

At the meeting held on September 21st, the exhibits were more numerous, and included several specially fine things. The members of the committee present were:—Messrs. G. Shorland Ball (in the chair), Leemann, Parker, Robson, Holmes, Cypher, Johnson, and Dr. Hodgkinson.

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a fine plant of Cattleya Gaskelliana alba, with a strong spike of four flowers, of very good form and substance (First-class Certificate), a good dark C. Harrisoniana violacea, and Cypripedium Argus, with small flower, blooming for the first time, of good form and very darkly spotted, which, when stronger, will doubtless make a very fine thing.

T. Statter, Esq., Stand Hall (gr. Mr. Johnson), showed Cattleya granulosa and C. g. Stand Hall var., the latter having the ground work much darker than the type, and quite distinct in appearance.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya × Hardyana Massaiana, and an interesting Cypripedium seedling, one of the parents being Chamberlainianum and the other unknown.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Cattleya × Maroni (velutina × Dowiana aurea), an exceedingly beautiful form of this pretty cross, with large and well-formed flower, and a form of Lælio-cattleya × Henry Greenwood, no doubt correctly named, but without the beautiful yellow throat which lends such distinction to the variety acquired by the late Mr. Greenwood, which was also shown at this meeting and is referred to below. Mr. Ashworth's variety might be distinguished by a varietal name, the white throat giving it quite a different appearance.

Mrs. H. Greenwood, Haslingden (gr. Mr. Gill), showed the beautiful Lælio-cattleya × Henry Greenwood, referred to above, and was awarded a First-class Certificate.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), showed a good Cattleya × Hardyana.

Mr. James Cypher, Cheltenham, showed a very fine and distinct seedling Cattleya, one of the parents undoubtedly being C. bicolor (First-class Certificate), and a fine Dendrobium Phalænopsis.

Messrs. Charlesworth and Co., Bradford, showed Cypripedium × tessellatum porphyreum, Lælio-cattleya × Admiral Dewey, a very pretty form of this fine cross, not quite so dark in the labellum as the plant shown at the last meeting, but somewhat larger (First-class Certificate), L.-c. × Duke of York, L.-c. × intermedio-cinnabarina, Cattleya ×

Hardyana, of good colour and form, but on a weak plant and small (Award of Merit), and Oncidium ornithorhynchum album, which has already received a First-class Certificate.

Mr. W. Holmes, Timperley, showed Cypripedium conco-Lawre.

Mr. John Robson, Altrincham, showed Lælio-cattleya × superbo-elegans, and a very fine form of Cypripedium Charlesworthii (Award of Merit).

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

A few good Orchids were staged at the Drill Hall, James Street, Westminster, on September 12th, but, as is usual at this season, the exhibits were not numerous. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. Bond, Chapman, Crawshay, Douglas, Fowler, Gabriel, Hill, Jaques, Little, Lucas, Pollett, Smee, Young, and O'Brien (hon. sec.).

W. Duckworth, Esq., Shaw Hall, Flixton, Manchester (gr. Mr. Tindall), sent the beautiful albino, Cattleya Lueddemanniana alba, to which a First-class Certificate was given. It is quite typical in size and shape, but of the purest white, with the disc of the lip clear light yellow. The history of the variety is given at p. 326 of our last volume.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed four flowers of Ingram's variety of Lælio-cattleya × callistoglossa, and Cattleya × Kienastiana Aurora (Lueddemanniana ♀ × Dowiana aurea ♂), a beautiful light variety, to which an Award of Merit was given. The sepals and petals are light rose, slightly freckled with cream white, and the lip bright yellow at the base and centre, with purplish red lines, and the front lobe undulate, light rose coloured, with an irregular purplish rose blotch in the centre.

H. S. Leon, Esq., Bletchley Park (gr. Mr. Hislop), also received an Award of Merit for Lælio-cattleya × callistoglossa Leon's var., a very fine form, with bright lilac-rose sepals and petals, and the lip dark claret-purple to the extreme base.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, exhibited the remarkable Cryptophoranthus hypodiscus (Rolfe), to which a Botanical Certificate was given. It is allied to C. Dayanus, but has smaller flowers of a dull purple colour, with some white hairs on the veins of the dorsal sepal. The flowers of this genus are very curious, being closed at the apex, with a pair of openings at the side, and thus resemble the head of a bird.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), showed the pretty little Sophrocattleya × Hardyana (Sophronitis grandi-

flora ♀ × Cattleya Aclandiæ ♂), a charming little hybrid, which is figured at page 209 of our July issue.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), showed Cypripedium niveum maculatum, a pretty form in which the parts of the flower were uniformly dotted with light purple.

Col. R. W. Shipway, Grove House, Chiswick (gr. Mr. Walters), showed a very fine form of Cattleya × Hardyana, with a very broad and richly-coloured lip.

Mrs. Temple, Leyswood, Groombridge (gr. Mr. Bristow), sent a good form of Cattleya Gaskelliana.

Messrs. F. Sander & Co., St. Albans, sent a nice lot of the beautiful Dendrobium formosum, arranged with Acalypta hispida, the contrast of white and crimson being very effective.

At the meeting held on September 26th, Orchids were better represented than on several previous occasions, and Medals were awarded to three groups, though only two other awards were made. The members of the Orchid Committee were:—H. J. Veitch, Esq. (in the Chair), and Messrs. Chapman, Cobb, Colman, Courtauld, Crawshay, Fowler, Gabriel, Hill, Jaques, Thorne, Young, and O'Brien (hon. sec.).

C. H. Feiling, Esq., Southgate House, Southgate (gr. Mr. Canham), exhibited a large and well-arranged group, to which a Silver Banksian Medal was given. It contained a number of well-flowered plants of Dendrobium Phalænopsis, some good D. formosum, Cattleya Gaskelliana, C. Leopoldi, Miltonia Clowesii, Lælia pumila, a number of good Cypripediums, &c.

T. W. Thornton, Esq., Brockhall, Weedon, exhibited Cattleya × weedoniensis (Mendelii × granulosa), a very beautiful hybrid, bearing a scape of three flowers, to which an Award of Merit was given. The general shape was that of C. granulosa, but the segments broader, and quite different in colour. The sepals are greenish white, tinged with lilac, the petals cream-white, tinged with green along the centre, and veined with purplish rose throughout, and the lip deeply trilobed, with the side lobes pale yellow, darker on the inside, and the front lobe crisped and bright rose purple in colour, with a lighter tint between the nerves.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed a brilliantly coloured form of Cattleya × Hardyana, with much yellow on the sides of the lip, and Odontoglossum crispum Bassano, a very fine white form, with a large blotch of red-brown on the lip, the latter receiving an Award of Merit.

W. M. Appleton, Esq., Tyn-y-coed, Weston-super-mare (gr. Mr. Brooks), showed Cypripedium × enfieldense, and C. × Juliæ (Lawrence-

anum × exul), a pretty hybrid of intermediate character, raised from seeds sown in January, 1895.

T. B. Haywood, Esq., Woodhatch Lodge, Reigate (gr. Mr. Salter), showed Cypripedium × Fowlerianum Haywood's var. (Harrisianum superbum × bellatulum), a very handsome hybrid, together with flowers of both parents.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), showed a fine plant of Dendrobium taurinum amboinense, bearing a large spike of flowers, which are light bronzy brown in colour.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), showed the richly-coloured aud handsome Lælio-cattleya × elegans Littleana, which has been in the collection over fourteen years, and Cypripedium Sanderianum.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), showed Cypripedium × Lachmee (ciliolare ♀ × superbiens ♂), a handsome form most resembling the latter.

The Rev. F. Paynter, Stoke Hill, Guildford (gr. Mr. Cooke), sent a fine yellow form of Odontoglossum grande, in which the usual brown markings were absent, and a hybrid derived from Lælio-cattleya × elegans and Cattleya Lawrenceana, most resembling the former in shape and colour.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent a large and handsomely-coloured form of Cattleya × Hardyana.

Messrs. James Veitch & Sons, Chelsea, staged a very fine group, to which a Silver Flora Medal was awarded. It contained some good forms of the handsome Lælio-cattleya × callistoglossa, L.-c. × Fortuna (L.-c. × Schilleriana × C. Mossiæ), Cattleya × Chloe, a very pretty hybrid derived from C. Bowringiana and C. bicolor, most resembling the latter, the flowers being rosy purple, with the front lobe of the lip dark purple, and the light rose side lobes comparatively small; C. × Patrocinii, a handsome natural hybrid from C. Loddigesii and Leopoldi, C. granulosa, C. Loddigesii, C. bicolor, Angræcum articulatum, Brassavola nodosa, Zygopetalum maxillare, Houlletia Brocklehurstiana, Dendrobium Dearei, D. Phalænopsis, D. superbiens, and a number of fine Cypripediums.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a handsome group, to which a Silver Banksian Medal was given. It contained in the background some fine examples of Vanda cœrulea, Oncidium Marshallianum, phymatochilum, carthaginense, and others, and in front the pretty O. ornithorhynchum album, Cattleya × Minucia, examples of C. Gaskelliana, C. G. alba, Lælio-cattleya × elegans, L.-c. × Schilleriana, Odontoglossum grande, and other species, together with a number of good Cypripediums, &c.

ORCHID PORTRAITS.

ANSELLIA CONFUSA, N. E. BR.—*Rev. Hort. Belge*, Sept., p. 193, with plate.

ANSELLIA CONGOENSIS, N. E. BR.—*Rev. Hort. Belge*, Sept., p. 193, with plate.

CATTLEYA LUEDDEMANNIANA ALBA.—*Journ. of Hort.*, Sept. 21, p. 247, fig. 49.

CORYANTHES MACULATA, Hook.—*Rev. Hort.*, Sept. 16, p. 428, fig. 186, and plate.

CYMBIDIUM TRACEYANUM.—*Wien Ill. Gart.-Zeit.*, Aug.-Sept., p. 319, fig. 47.

CYPRIPEDIUM × CAPTAIN HOLFORD.—*Gard. Mag.*, Sept. 9, p. 561, with fig.

CYPRIPEDIUM × SHILLIANUM.—*Gard. World*, Sept. 23, p. 57, with fig.

CYPRIPEDIUM × VIPANII.—*Journ. of Hort.*, Aug. 31, p. 132, fig. 38.

DRYMODA PICTA, Lindl.—*Neub. Gart. Mag.*, Sept., p. 385, t. 9.

LÆLIO-CATTLEYA × ADOLPHUS.—*Gard. Mag.*, Sept. 16, p. 580, with fig.

LÆLIO-CATTLEYA × WIGANIÆ.—*Journ. of Hort.*, Aug. 31, pp. 132, 133, fig. 39.

MILTONIA × BLEUI.—*Rev. Hort.*, Sept. 1, pp. 400, 401, figs. 177, 178.

SCHOMBURGKIA LYONSII.—*Gard. Chron.*, Sept. 9, pp. 202, 203, fig. 71.

SOPHRO-CATTLEYA × QUEEN EMPRESS.—*Journ. of Hort.*, July 27, pp. 73, 83, fig. 18.

VANILLA AROMATICA.—*Gartenflora*, Sept., pp. 489, 490, fig. 72.—This is V. planifolia.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J. F. Cattleya Leopoldi. Most of the plants cultivated as C. guttata belong to this species, which is much larger and uniformly different in the shape of the lip. The true old C. guttata, Lindl., however, does exist in a few collections. The so-called C. guttata Prinzii is a synomym of C. amethystoglossa.

H. M. A handsome form of Lælio-cattleya × Schilleriana, quite distinct from L-c. × elegans and of different parentage. Both are very variable, but anyone familiar with the differences between Cattleya intermedia and C. Leopoldi will readily distinguish the two hybrids.

W. V. A superb form of Cattleya × Hardyana, with very dark sepals and petals, the latter slightly mottled along the centre and veined near the margin, and the lip very richly coloured.

A. de L. Lælio-cattleya × elegans, a very pretty variety with the sepals and petals of a clear lilac-rose, the latter being unusually broad, and the front lobe of the lip cuneate-obovate in shape, and very dark crimson-purple. We are uncertain as to whether it agrees with any named variety.

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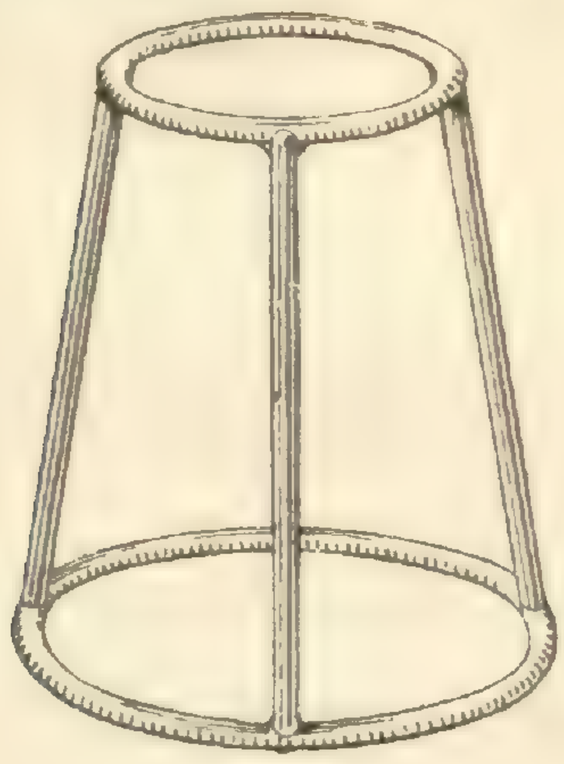

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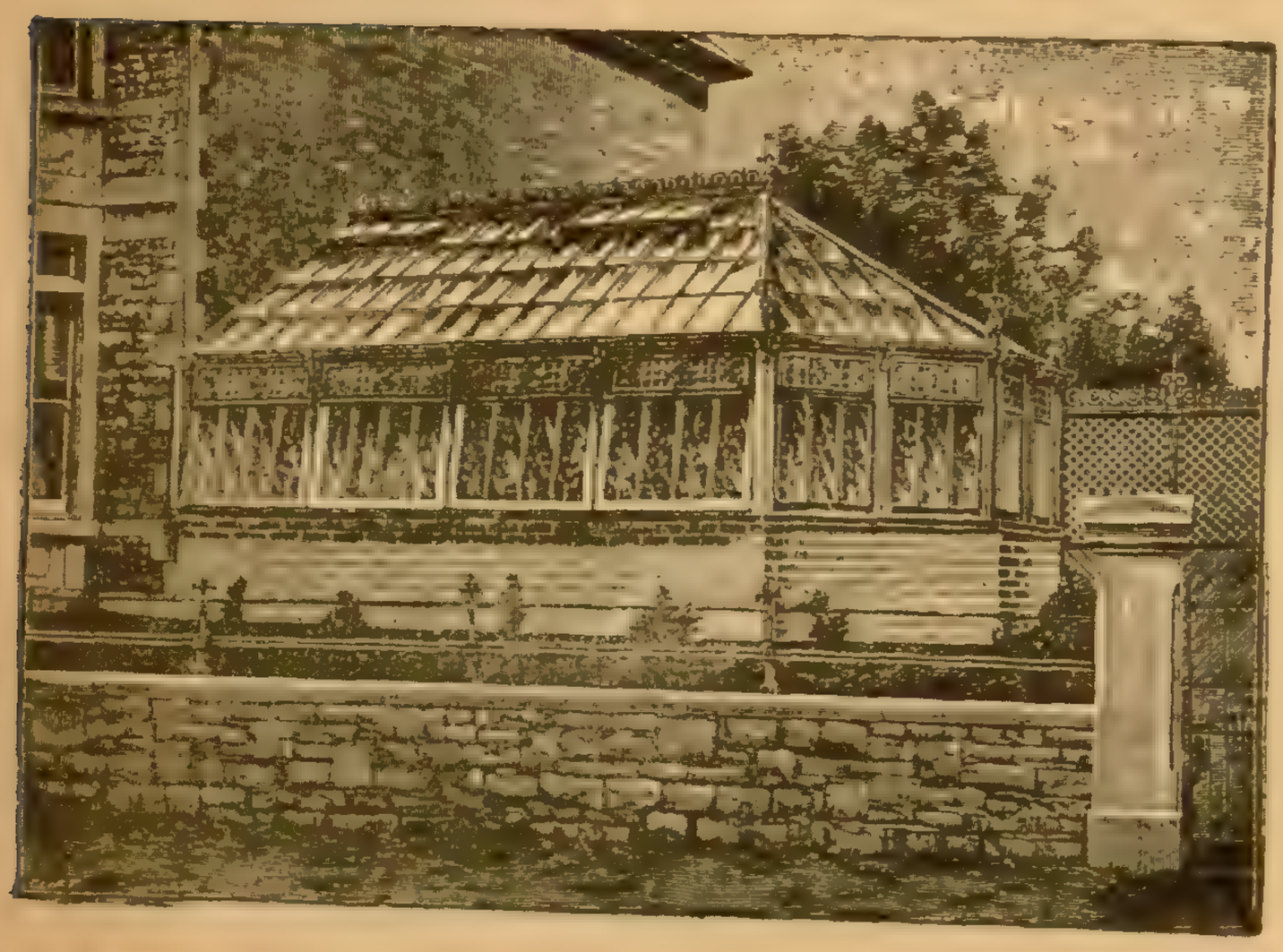

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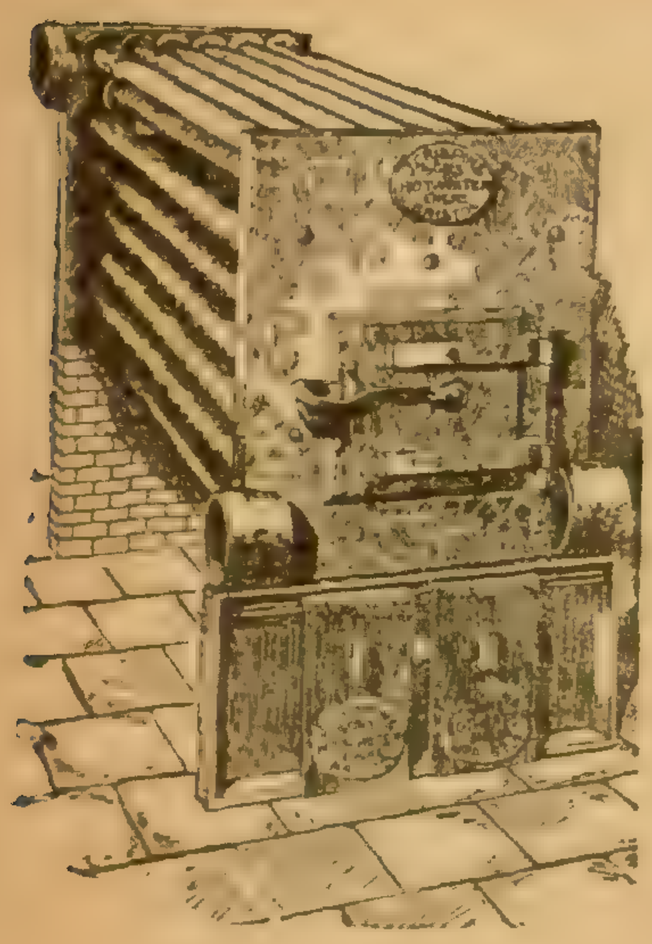

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *NOVEMBER*, 1899. [No. 83.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during November, on the 7th and 21st respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The November meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on the 9th and 23rd. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A superb form of Cattleya × Hardyana has been sent from the collection of W. M. Appleton, Esq., Tyn-y-coed, Weston-super-mare. The lip is very richly coloured, but the beautiful golden veining of C. Dowiana extends over the basal half of the front lobe and beyond the yellow blotches at the sides. The richly coloured petals are also slightly mottled at the base, and veined throughout with yellowish white, and the sepals are also somewhat mottled. It is a very charming variety.

An unusually brilliant form of Dendrobium Phalænopsis is also sent from the same collection, the petals and lip being of a rich rose-purple shade, except at the nearly white base, while the sepals are nearly as dark. Mr. Appleton, who is very successful in growing this species, considers it the most brilliant variety which he has seen.

The remarkable Brassia brachiata, of which a flower is enclosed, is also flowering in the collection, and resembles a giant edition of B. verrucosa.

Further particulars of the remarkable Eulophiella Peetersiana are coming to hand. An account of its native country was given at page 258, and we now learn that it grows upon Pandanus stems, and when in flower it forms an imposing spectacle.

A dense fog, charged with the usual products of combustion, made its appearance in the London district during the latter part of October, lasting for several days, and doing a great amount of damage to Orchid flowers and buds. In the Streatham district they seem to have been particularly severe. R. H. Measures, Esq., writes from The Woodlands:—"In one house we lost 228 Cattleya spikes, and in another 260 leaves of Cypripedium insigne. In some cases plants looked as though they had been sprayed with paraffin and soot. The brass handles of the doors were as though they had been bronzed over. It is certainly the most severe fog we have as yet experienced."

The July, August and September numbers of the *Dictionnaire des Orchidées* have reached us since our last issue, and among the plants figured we find the beautiful Comparettia macroplectron, Cochlioda Noetzliana, Cymbidium Lowianum concolor, Masdevallia leontoglossa, Oncidium carthaginense and O. leucochilum, Renanthera matutina, Phalænopsis sumatrana and Mannii, Vanda Parishii and its variety Marriottiana, &c.

It is interesting to note that another hybrid Calanthe has been raised between the evergreen and deciduous sections of the genus, this time by Mr. J. H. Lane, gardener to H. J. Elwes, Esq., of Colesborne Park, Gloucestershire. It was obtained by crossing C. × Veitchii with the pollen of the Japanese form of C. veratrifolia, and has white flowers with a yellow crest, much resembling those of C. × albata (*ante*, v., p. 10), of which it is evidently a variety.

HABITATS OF INDIAN CYPRIPEDIUMS.

RESPECTING your notes as to Cypripedium × Leeanum as a natural hybrid (page 310), you will be interested to know that I have one that came up in a clump of C. insigne out of one of Messrs. Sander's importations, said to have come from the Himalayan Mountains. At first I thought that it might be a stray seedling, but on comparison I find that the foliage and flower are quite distinct from any that I have raised. I have also another plant which has not yet flowered in another batch from Messrs. Sander's importations, but which from the foliage is either C. × Leeanum or C. Spicerianum.

W. M. APPLETON.

Weston-super-mare.

ORCHIDS AT TYNTESFIELD.

THE collection of Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, is well known as one of the finest in the Manchester district, and when at the end of May last we paid a hurried visit, we found many features of interest. It was not the time to see the collection at its best, for, besides the late season, a sale of duplicates had just taken place, and packing of the plants for their new destination was still in progress. This, however, will give room for the better development of the remainder, which in spite of the large amount of space devoted to them were rather outgrowing their quarters. There are three ranges each 150 feet long, divided into compartments, and two or three detached houses besides, so that Mr. Stafford and his assistants evidently find their hands pretty full in looking after the requirements of the plants under their charge.

We can only give a few notes of the interesting things seen, without attempting anything like a general account of the collection, which is in a thriving condition, and we noticed such adjuncts of good cultivation as roller blinds, open stages, and modern improvements generally.

In the Cattleya house were a lot of C. Mossiæ in flower and bud, several brilliant forms being among those already expanded. C. Skinneri and C. dolosa were also observed, together with some good C. Schrœderæ, and the handsome C. × Lawre-Mossiæ. There was also a good form of Lælio-cattleya × Schilleriana, together with a series of the variable Lælia purpurata. Nor must we omit to mention the brilliant little Sophro-cattleya × Hardyana which has since been figured in these pages (*ante*, p. 203).

The Cypripedium group is strongly represented, and among those which were specially pointed out two plants of C. Fred. Hardy, a plant of somewhat doubtful origin, but which has been suspected to be an albino of C. Charlesworthii. It has been figured in these pages (*ante*, v. p. 17). Among those in flower were some good forms of C. bellatulum, C. barbatum, a pretty seedling possibly derived from the latter and C. Argus, a good C. Mastersianum, C. × selligerum, C. × Gowerianum, of which also there were some seedling plants in bud, and a variety of others.

Odontoglossums are, of course, grown in quantity, but very few of the crispums were yet out. We noted, however, some good O. Pescatorei, examples of O. gloriosum, a good form of O. × mulus, O. apterum candidulum, some good O. citrosmum with their graceful pendulous spikes; also two well-flowered plants of the brilliant Cochlioda Nœtzliana, and among Masdevallias, good plants of M. Veitchiana and M. caudata.

Besides these there are many miscellaneous subjects, in both the Warm and Cool houses, which we had not time to note, and many of them were not yet in flower.

A considerable amount of hybridising is done in the collection, and Mr. Stafford showed us a house full of healthy little seedlings in various stages, including many choice crosses.

The Cattleya group is represented by healthy little plants which could be counted by hundreds, and include such choice crosses as Lælia tenebrosa × Cattleya aurea, Sophronitis grandiflora × C. Warscewiczii, and S. grandiflora × L. Dayana, the latter being good sized plants. We could have made a long list had time permitted.

The Cypripedium group was, as usual, well represented, the majority being choice combinations, such as C. bellatulum × insigne Sanderæ, a few nice little plants, C. bellatulum album × callosum Sanderæ, small seedlings, C. ciliolare × bellatulum, C. Charlesworthii × Morganiæ burfordiense, a nice batch of seedlings, all having variegated foliage, C. × Gowerianum magnificum × bellatulum, &c. There were also nice seedlings derived from C. Charlesworthii × bellatulum, whose flowering is awaited with interest, because of the fact that these two plants are known to grow together in a wild state.

Other genera are also represented, and among them we must mention a nice lot of Dendrobiums, the large ones of which were suspended in another house, and growing in the most robust manner. It may be added that Mr. Stafford's experience with D. Wardianum agrees with that of those hybridists who have failed to get good capsules on it.

A few seedlings have already flowered, and the next few years should see a considerable accession to the ranks, both of flowered and unflowered seedlings, as the work is being prosecuted with energy and success. Much care is also taken in selecting combinations which are likely to yield good results, itself a rather important matter. It is certainly, at the present, not worth while crossing promiscuously, for a good deal of patience has to be exercised in awaiting the results. Of course one cannot always foresee what the result of a cross will be, but there are now plenty of examples as to what to seek and what to avoid, and Mr. Hardy and his able gardener, Mr. Stafford, have set about the work in a way that at all events deserves success. The results must be left for the future to reveal.

Sketches v. Photographic Illustrations. — "Those who have studied the astonishing cuts called diagrammatic representations, the counterparts of which they vainly search for in nature, will be strongly in favour of any method which reproduces an object so that it can be recognised, and the tendency of the art of the present day seems to be in this direction."—*American Monthly Microscopic Journal.*

ODONTOGLOSSUM CRISPUM IN ITS NATIVE HOME.

By FLORENT CLAES, Brussels.

I THINK I wrote in the *Journal des Orchidées* about the year 1890, that the form of Odontoglossum crispum known under the name of the "Pacho type," threatened to become extinct in the more or less immediate future. Ten years have not yet elapsed, and we already appear to have arrived at the end of the good collections which were formerly obtained in the region properly called the Pacho district.

The supply of the species has been exhausted, not only by the persistent hunt that has been carried on, but also in great part by the destruction of the forests, for the creation of pastures and plantations of various kinds. This is the reason why Odontoglossum crispum is rare there to-day, and why, with twice as many men, it now takes longer to collect a hundred plants than it did formerly to collect a thousand. How different it is now from the time when the first collectors made their appearance at Pacho, nearly forty years ago!

I may relate a story told me by the late Mrs. Bunch, who died only three years ago. She was the wife of a rich colonist of English origin, who, at the time in question, was proprietor, so to speak, of all the municipality of Pacho.

"Funck and Schlim," she told me, "were the first botanists who came to Pacho in search of the famous plant, both of them ignorant that the forest abounded in it. The forest at this period descended down to the foot of the village. We accompanied these gentleman in their excursion, and half an hour after starting, without our having cut down a single tree, we returned with about ten peons bent down with the weight of 'aquadigas'—the local name for Odontoglossum—which we had collected. Funck and his companion rejected three-fourths of the plants, preserving only the very strongest pieces."

The forests immediately around Pacho have now disappeared, owing to the reasons given at the commencement of this article, and the Odontoglossums which formerly grew there have in consequence totally perished. The few rare consignments of the true type which this forest still gives from time to time, come from the remote or least accessible parts, which have escaped the search of the peons; or it may be because that part of the forest has been carefully guarded by the proprietor, who knew that the much coveted plants represented to him a little pot of money, if not a small fortune. Sometimes, as the result of constant entreaties, he would permit the plants to be collected, for which he would naturally secure a very good return.

"Only to think," reflects he, pocketing his money, "that each 'oignon'

(bulb) of these plants is returned to us in the form of medicine, and that each little phial is sold again for five pesas" (twenty-five francs). Sometimes they say this in a loud tone, quite convinced that these plants are used by us to make drugs.

In other cases the proprietor, after much hesitation, thinks that he would realise a greater profit by exploiting the mountain himself, without even suspecting that he may have been the victim of the greatest deceptions. He thinks that he has only to take his axe in hand to be able to return with cargoes of plants, and it is with great astonishment that he finds out that others have been before him, cutting down the trees on a large scale, and carrying off the plants unknown to himself, notwithstanding all his vigilance.

This is a case which often occurs when the proprietor has refused, notwithstanding the offer of a great indemnity, to allow the exploration of his woods. The peons then enter by a neighbouring property, which itself perhaps may not contain any plants, and to which they have obtained access by the payment of a small fee, which allows them to enter, and afterwards depart with the plants collected in the former.

When this proceeding fails to succeed—it may be because the property or the woods are sufficiently isolated for the careful guarding of the main outlets—they resort to strategy, to effect an entrance surreptitiously, one by one, without attracting the attention of the sub-tenants, who occupy or cultivate a plot of land in the hacienda (farm), concealing in their "muchila" (a little bag made of Fourcroya fibre) their axes, concealed under their food, and some clothing which they each carry for a week's supply when out on a collecting expedition.

In groups as rocky as the Colombian Cordilleras there is always some spot where the rocks are so precipitous, or cut so perpendicularly as to produce giddiness, that all entrance or exit appears to be materially impossible from that side. These places are usually inhabited, and in consequence overlooked, but these are the places which are selected by the peons, who work in the following manner.

A cable, made of lianas twisted together, is stretched obliquely, fixed at one end to the summit, and at the other to the foot of the precipice, by a tree.

The plants, carefully rolled in the 'muchilas,' are then passed along the cable by means of a ring, and are sent to the bottom without receiving the least injury from the projections of the rocks. There the plants are received by one or two of the 'associés,' who are eager to put the booty in a safe place. The same manœuvres are repeated week by week, until the mountain is perfectly cleared, and without the proprietor having received a penny benefit.

Geographical Distribution.

The immense area over which Odontoglossum crispum grows can be subdivided into three quite distinct regions. The first, having the village of Pacho for its centre, is the region which yields the best round flowered form, known in commerce as the "Pacho type." It extends on the one hand between Pacho, Ubaté, Coper and San Cayetano, and on the other hand between Sasaïma, La Vega, Lupata and Pacho. All this region has been searched and exploited, one might say up to its remotest corner, and the peon would consider himself lucky who returned with twenty plants as the fruits of a week's work. The prevailing species of this region are O. crispum, O. Lindleyanum, and O. gloriosum, associated with a few O. luteopurpureum and O. Wallisii. The natural hybrids found here are rather rare, but when one has the good fortune to find one it is often of remarkable beauty.

The second region is formed by the Cordillera which extends between the Rio Minero and Rio Suarez up to the Valle de Jésus. The upper part of this region also yields a very good type of O. crispum, both for the form and size of the flowers. The plants having small flowers, which we sometimes meet with, come from the lower limits, that is to say the more temperate region of the Cordillera. This plant is easily distinguished at the moment of collecting. The peons, however, mix them with the others, thinking they will pass unobserved, and thus augment the profits of their work. We invariably reject them, though I have a strong conviction that when well cultivated in a normal temperature, for three or four years perhaps, the flowers would revert to the form and dimensions of the type which is found from about 600 to 1300 feet higher up.

The experiment I think would be worth the trouble, because it is undeniable that all have originated from the same stock. If I may express it thus, I would say that we find ourselves in the presence of a plant only degenerated by displacement from its true centre, not in that of another altogether inferior species. Men and animals from northern regions do not degenerate after a long sojourn in tropical latitudes. Do not their children preserve the same vigour as in their original birthplace!

It is a small section of this region that has yielded the principal hybrids which have appeared among the importations of recent years. I have also been able to prove that the natural hybrids which are principally met with at the extreme limits occur at an altitude where O. crispum grows in relatively small quantities, and where O. Lindleyanum and its variety mirandum largely predominate. And further, that O. gloriosum grows in such abundance that at the time of flowering the forest is literally scented with it.

In one of my excursions of this year I found O. coronarium growing in the same Cordillera with O. crispum, and also some rare examples of O.

triumphans. In another spot I found in great quantity O. gloriosum and O. × Ruckerianum. The latter were generally poor varieties, and emitted for the most part a perfume of hawthorn, which to me appeared to indicate a cross between O. × Ruckerianum and O. gloriosum.

The third region is that where the Cordillera extends itself towards La Mesa, Arbelaiy, and Pasca, having Fusagasuga for its centre. From this region come some beautiful O. × Wilckeanum, and the natural hybrids of O. crispum which have the flowers spotted and blotched with violet. The O. crispum found in this region have the flowers "star shaped," and without substance enough for cut flowers. It grows there in certain spots in company with a distinct type of O. luteopurpureum, while O. gloriosum, O. Lindleyanum and O. mirandum abound there with the same profusion as in all the other Cordilleras before mentioned.

DIES ORCHIDIANÆ.

A CURIOUS fact seems to have come out respecting the remarkable Eulophiella Peetersiana, namely that it was originally collected some half-a-century ago (see note at page 258), and has laid at Paris ever since, without attracting the least attention. It is certainly strange, but the facts may be accepted, for it seems impossible that anyone could be mistaken about the recognition of so distinct a plant. It would be interesting to know a little more about the circumstances of its original discovery, and what collectors have been there since, as suggested. I hope now that the habitat is known we shall not have a raid made upon it, until the poor plant is exterminated. The Isle de Nattes is a small place, and one can only hope that the plant is as common as would appear from the note.

Two other scraps of information come out in the same note. One is that another species of Eulophiella, having large white flowers, also exists on the same small island, and the other that the now well-known E. Elisabethæ grows on the opposite coast of Madagascar. What do not such facts portend? If such striking plants have so long escaped recognition, what other novelties may there not be in the district yet undiscovered? In the face of the present discovery it seems most unlikely that the locality is yet exhausted.

Mention of the habitat of Eulophiella Elisabethæ recalls the history of that interesting plant (see my notes on the subject, vol. iii. pp. 101, 231). We know that there were a few "young and very small plants left," and I suppose they have grown "large enough to gather" by this time. Whether any were gathered does not yet appear, but there would be the

terrible "Protocryptoferox" to be reckoned with, even after the consent of the guardian "brother-in-law" had been obtained (*vide* history). At all events it is interesting to learn a little more about the habitat of the plant.

Another interesting event to which I have not yet specially referred is the re-discovery of the beautiful Lælia Jongheana (*ante*, p. 173). The plant had long been a desideratum in collections—almost a myth, some would have regarded it, but for the fact that its portrait had appeared more than once, and that at least one hybrid from it had been raised. These facts seemed substantial enough, as well as its original history, and yet the plant was to all intents and purposes lost sight of, so far as collections generally were concerned, for about a quarter of a century. It seems now to have come quite unexpectedly, for the plant which flowered with Mr. Keeling was out of an importation sold a year previously by Messrs. F. Sander & Co., as "Lælia sp.," but was recognised on being submitted to Kew for determination. In any case Messrs. Sander must be congratulated on its re-introduction, which will soon enable us to judge better of its value for decorative purposes.

A short time ago a very pretty hybrid was figured in the *Dictionnaire Iconographique des Orchidées* under the name of Cypripedium × Souvenir de Roch Jolibois, Opoix. The *Gardeners' Chronicle* in noticing the same asked—"Would it not be preferable to call it simply C. Jolibois ×?" (Sept. 16, p. 217). M. Cogniaux in the August number of the *Chronique Orchidéenne* (p. 250) replies—the answer somehow seems to have got in advance of the question, but never mind that:—"We think that our influential London contemporary is right. It is a veritable abuse to inflict upon us specific names composed of four or five words. In principle, the specific part of the name should be limited to a single word—as an exception we might even tolerate two words—and we are inclined to rank ourselves among those who propose to reject, or to consider as invalid, all names in which the specific part comprises more than two words."

All this is distinctly promising. As my readers know, it is a question which I have been hammering at, on and off, and in almost every conceivable form, for years. But let that pass. We are now *nearly* agreed that the specific name should consist of only a single word. M. Cogniaux would tolerate two words, in exceptional cases. I would stipulate that in such exceptional cases the two words should invariably be joined by a hyphen, as in the case of Cattleya × Victoria-Regina, and perhaps M. Cogniaux would not seriously dissent from this. Next comes the question of the form which the single word should take. In the above case the *Gardeners' Chronicle*

suggests "C. Jolibois" × as a suitable abbreviation. Very well, let us extend it to a few other similar cases, and see how it works out:—

C. × Mrs. F. L. Ames	becomes	C. × Ames—	why not	Amesiæ?
C. × Mons. Elysée Descombes	„	C. × Descombes—	„	„	Descombesii?
C. × Mdlle. Gabriel Moens	„	C. × Moens—	„	„	Moensiæ?
C. × Alfred Hollington	„	C. × Hollington—	„	„	Hollingtonii?
C. × Winifred Hollington	„	C. × Hollington—	„	„	Hollingtoniæ?

These are all primary hybrids, which according to the R.H.S. rules should receive Latinised names, and in just the same way C. × Joliboisii, not C. × Jolibois, is the name which should be adopted. I need not repeat here the objections which I have previcusly urged against the use of the vernacular, some of which are obvious enough. The above are only given as general examples, without reference to questions of priority, &c., which in some cases would have to be considered.

And now, with such a consensus of opinion as to the desirability of improvement, why can we not proceed to apply the principle in future?

ARGUS.

THE CULTURE OF ODONTOGLOSSUM CRISPUM.

IN your article in the last number of the *Orchid Review* on the Culture of Odontoglossum crispum (p. 307), you invite an expression of opinion on the culture of this lovely Orchid. I have about three thousand plants of Odontoglossum under my charge, the majority being O. crispum, which my employer is extremely fond of. Our houses are lean-to's, two of them facing north, and three others facing west, and we have always found that our plants do equally well in either position, the only difference being that the plants facing west make shorter and sturdier foliage—the result of more light. We use our ventilators very freely in favourable weather, and the bottom ones, which open against the hot-water pipes, are never closed. As to watering Odontoglossums, that must depend on the state the plants are in, and the season of the year. I think the present time is the most critical for watering, as the majority of the plants were potted—or should have been—in September, and the roots have not penetrated the fresh compost far enough to get water too freely, but on the other hand I am not a believer in keeping Odontos too dry during the winter months, as it is then they are in active growth. I think a great mistake with some growers is that they go far beyond the happy medium, and err too much on the dry side in the winter, not only at the roots, but in the air, just at the time when the plants want to be kept going. A nice growing temperature, about 50° by night, with a fall of five degrees in the morning, if the weather is very cold, suits them admirably.

ORCHIDIST.

VARIATION IN CAPSULES OF PAPHIOPEDILUM CONCOLOR—A POSSIBLE CAUSE.

SOME time ago we received a photograph of a plant of Paphiopedilum concolor in the collection of Reginald Young, Esq., Sefton Park, Liverpool, carrying seven seed pods, which showed a remarkable amount of variation between themselves. They were accompanied by the following interesting note :—

I have at the present time a plant of Paphiopedilum concolor carrying seven seed-pods. The pollen parents are as follows :—

1.	P. × Godseffianum	...	Date of hybridising,	Feb. 21,	1898.
2.	P. barbatum nigrum	...	,, ,,	Mar. 22	,,
3.	P. × Harrisianum superbum		,, ,,	July 18	,,
4.	P. × œnanthum	...	,, ,,	Aug. 3	,,
5.	P. × ,,	...	,, ,,	,,	,,
6.	P. Curtisii roseum	...	,, ,,	,,	,,
7.	P. × Charlesworthii	...	,, ,,	Sept. 5	,,

My reason for doing this will, I think, stand the test of criticism. First of all, it is an interesting and instructive experiment to see how the plant comes out of the ordeal. Secondly, it is no certainty that a plant of P. concolor will survive very long even if not hybridised. And, lastly, from a financial point of view, it would not take many seedlings from any one of these crosses to recoup me for any loss, should the plant perish. To look at it now, there is not the smallest appearance of damage.

Another interesting fact has by this means been brought to my notice. The seed-pods on this plant of P. concolor vary considerably according to the pollen parent used. Those formed under the action of P. × œnanthum are exactly alike, and are decidedly thin, as though the seeds would be small in quantity. That for which P. × Harrisianum superbum is responsible is longer and somewhat stouter. While those due to the pollen of P. × Godseffianum, P. barbatum, P. Curtisii roseum, and P. Charlesworthii are short and very fat, as though bursting with seed. It follows that a sketch of the seed-pod of P. concolor might easily be misleading, and if P. concolor, why not others ?

REGINALD YOUNG.

Liverpool.

In due time the pods ripened, and the seeds were sown, the empty capsules being carefully labelled, and forwarded for inspection. The variation is considerable, both in length and thickness. The latter point may possibly be partly dependent upon the number or quality of the seeds, but for the former, at all events, some other explanation must be sought. The capsule 3 (from P. × Harrisianum) measures 15 lines (omitting the beak and

pedicel), while 1 (from P. × Godseffianum) and 2 (from P. barbatum) only measure 9 lines; 6 (from P. Curtisii) and 7 (from P. Charlesworthii) measure 10 lines; and, lastly, 4 and 5 (both from P. × œnanthum) are about a line longer. The seeds of 4 and 5 are marked as "very poor," and of 1 "poor." There is also a variation in the period of ripening, varying from nine months in 4 and 5, to 13 months in 1 and 6, but the significance of this is not so apparent as it would have been if all had been pollinated on the same date.

As to the cause of this variation we can at present only offer one suggestion; namely, the possible influence of the pollen parent. That such an influence is sometimes exerted—on the seed envelopes (*e.g.* in the orange) and integuments (*e.g.* Lilium) has been stated, but some have regarded the evidence as inconclusive, and it would be interesting if a series of experiments were instituted to test the point. Species which possess some distinctive peculiarity in the sculpture of the seeds, or in the shape and colour of the fruit, would be suitable subjects for such experiments. It is interesting to note that, so far as the present genus is concerned, Mr. Young is making the experiment of intercrossing certain species, controlling the same by self-fertilising both parents, in order to know what the normal capsule is like, and that the results will be published hereafter.

As regards the result to the particular plant of P. concolor, Mr. Young adds that it still looks as well as ever, being now carrying a fresh pod (the pollen parent P. × Eyermanianum var. Hermione), a bud just about to open, and another which will be a little later.

CATTLEYA PORPHYROGLOSSA.

Some time ago a question was asked by Mr. E. A. Orpet, South Lancaster, Mass., as to the identity of Cattleya Dijanceana, a supposed natural hybrid obtained from Messrs. F. Sander & Co., and which was one parent of some seedlings he has raised. The following note of a plant exhibited at a meeting of the R.H.S. on September 8th, 1891, seems to afford the necessary clue:—"Messrs. F. Sander & Co., St. Albans, exhibited . . . an extraordinary small form of Cattleya granulosa called C. g. Dijanceana. The flowers of this form are much smaller than those of the type; sepals and petals green and unspotted, the side lobes of the lip are white, and the middle lobe reduced to a narrow, warted, rose-coloured blade; the column is yellow tipped with purple" (*Gard. Chron.*, 1891, x., p. 310). This plant is evidently C. porphyroglossa, Rchb. f., which was introduced from the province of Minas Geraes, by Messrs. Sander, and flowered in their establishment in August and September, 1891.

R. A. R.

ORCHIDS AT BRADFORD.

A VERY interesting establishment which we had the pleasure of visiting at the end of May last, is the Nursery of Messrs. Charlesworth & Co., at Heaton, Bradford, which has long occupied a very important position in the north of England. An account of the establishment was given in our second volume (pp. 212-213), and since that time there is plenty of evidence that great progress has been made.

In the first house which we entered there was a good display of flowers, and still more in bud, for in such a locality the lateness of the season could not fail to have a marked effect. We noted, however, among other things, a nice lot of Masdevallia Veitchiana making a brilliant display, half-a-dozen plants of the rare M. racemosa nicely in flower, M. ephippium, good examples of the rare M. Schlimii, M. macrura, M. coccinea, M. × Courtauldiana and M. × Curlei, Cattleyas Skinneri and Schilleriana, the brilliant Cochlioda Nœtzliana, Odontoglossum cordatum, some good broad forms of O. crispum, one of which had a purple blotch at the base of the sepals and petals, Epidendrum porphyreum, &c. Here was also an interesting hybrid derived from E. Frederici-Gulielmi ♀ and E. radicans ♂, though it had not yet reached its full development. There were also good plants of a hybrid derived from E. Cooperianum ♀ and E. × O'Brienianum ♂, and many other interesting plants which must be passed over.

In one of the Cattleya houses was a fine lot of C. Mossiæ in bud and flower, one plant bearing five spikes and an aggregate of seventeen large and richly coloured flowers being quite a picture. The varieties Wageneri and Reineckiana were also good. There were also good batches of Lælia purpurata and Miltonia vexillaria, the handsome Broughtonia sanguinea, Lælia Cowanii in sheath, a hybrid derived from Lælia purpurata ♀ and Cattleya Gaskelliana ♂ in bud for the first time, also good plants of Lælio-cattleya × eximia, from the reverse cross, L.-c. × Duvaliana (L. purpurata × C. Lueddemanniana), and an interesting hybrid from L.-c. × elegans crossed with Cattleya × Brymeriana.

In other houses we noted a nice batch of Phaius Wallichii, the handsome P. × Norman, good forms of Cypripedium bellatulum and C. niveum, a nice batch of C. × superciliare, the handsome Cattleya × Louis Chaton, Zygopetalum Gautieri, Lycaste cruenta and L. Lawrenceana, Maxillaria grandiflora, Epidendrum atropurpureum, a fine specimen of Cochlioda sanguinea with twelve spikes, and other interesting things. Among these some of the hybrids should be mentioned. Lælia × cinnabrosa was represented by a few good plants in flower and bud, Epilælia × radico-purpurata was also out, together with light and dark forms of a hybrid between Epidendrum × O'Brienianum ♀ and E. vitellinum ♂.

Hybrids seedlings are now one of the special features of the establishment, for some years ago Mr. Charlesworth took up this branch of the subject, and he has now many thousands of plants in all stages, some of them having already reached the flowering stage. Mr. Charlesworth has effected a large number of remarkable crosses, and he has also been particularly successful in raising the seedlings, and some which he showed us were germinating like the proverbial "mustard and cress," which is largely the result of a series of careful experiments which have been made. We were able to examine quantities of seedlings in every stage of germination up to the production of roots and leaves, after which with ordinary care they may be considered safe. A seedling house, 130 feet long, contains thousands of plants in the healthiest condition, and from there they seem to have overflowed into the other houses, until one wonders where room will be found for them, as they continually require more space as they increase in size.

We may mention here a few of the interesting crosses noted:—Lælia cinnabarina × Cattleya Dowiana aurea should prove good, and showed signs of developing a sheath. L. tenebrosa × C. × Hardyana was represented by nice plants, also L. cinnabarina × C. Trianæ, L. purpurata × C. Dowiana, has been effected more than once, and some of the plants are quite large. There is also a fine series of Lælia Digbyana crosses, from which much is expected. Cattleya Forbesii × C. Dowiana is an interesting cross which is represented by good plants, also C. Leopoldi crossed with both Sophronitis grandiflora and Epidendrum vitellinum. There is also L. tenebrosa × E. vitellinum, and Sophronitis grandiflora crossed with both L. tenebrosa and L. cinnabarina. S. grandiflora indeed is represented by a fine series of crosses of great promise. Dendrobium crosses are numerous, and include some very promising combinations. Cymbidium eburneum × C. Lowianum concolor is represented by good plants, besides which there are many hybrid Thunias, Cypripediums of the best crosses, &c. The crosses themselves run into hundreds, and most of them have been made with some definite object. Lælia tenebrosa × Schomburgkia tibicinis may fairly be included among curious crosses, and it will be interesting to see what the flowers are like. Lælia cinnabarina × Epidendrum atropurpureum and E. prismatocarpam should also prove curious, also L. tenebrosa crossed with the species last named.

Of the seedlings which have already flowered, paintings have been preserved, and these, together with various choice varieties which have flowered in the establishment, form a handsome series, which will become increasingly valuable as time goes on.

Several very interesting plants were pointed out by Mr. Charlesworth. For example, a plant of Odontoglossum × Wilckeanum, said to be the original

plant named by Reichenbach, and which had been obtained from the Continent, the rare O. lepidum, a good plant of Miltonia × Peetersiana, some plants of Cattleya × Hardyana collected when in flower, and nice plants of Cypripedium bellatulum album and C. Lawrenceanum Hyeanum. It would be easy to increase the list, did space permit, and we can only add in conclusion that the general stock comprises most of the well known things, in excellent condition. The stock of hybrids far exceeded our expectations. They are indeed an extensive and remarkable series, and include many which we shall doubtless have to speak of hereafter, as they reach the flowering stage.

THE HYBRIDIST.

Paphiopedilum × Hitchinsiæ.

This is a new and very charming hybrid from Paphiopedilum insigne montanum crossed with the pollen of P. Charlesworthii. It is sent from the collection of Arthur S. Hitchins, Esq., Clyton, St. Austell, and is named after that gentleman's daughter, Miss Irene Hitchins. About a dozen seedlings were raised, two of which are flowering, and the first to expand has been kindly sent for our inspection. The plant is fairly intermediate in character, having narrow bright green leaves, and a scape six inches high, while the characters of both parents are apparent enough in the flower. The dorsal sepal is broadly rounded, slightly concave, folded at the apex, as in the seed parent, 2 inches broad by 1¾ inches long, white with the exception of a small green area at the base, and bearing about seventeen rows of pretty rose-purple spots, of which the central one alone extends to the apex, the others running out about the middle, and having a broad clear white area on either margin. The petals are horizontal, 1¾ inches long by ½ an inch broad, and light green, beautifully reticulated with light brown, thus strongly resembling the pollen parent, to which the lip also bears a strong resemblance. The staminode is most like that of the seed parent, but rather smaller, more concave, and paler, with a very prominent yellow tooth in the centre. In the dorsal sepal it may be compared with a well spotted P. × Leeanum, but the influence of P. Charlesworthii comes out strongly in other parts, and it is quite possible that the rose-colour of the dorsal sepal may come out stronger in other seedlings. It appears to have a good constitution, and ought to become as popular as the beautiful P. × Leeanum. This plant has been kept in the East India house for some time in order to hasten the flower, but the remainder, which have been grown cooler, are said to have the leaves deeper green in colour. We know of other seedlings of the same cross, but believe they will not flower this season, and we must congratulate Mr. Hitchins on his success.

Phragmipedilum × Geralda.

This is a very pretty hybrid which has been raised in the collection of Mr. W. D. Rockefeller, by Mr. William Turner, from S. Lindleyanum crossed with the pollen of S. caudatum, and combines well the characters of its two parents. The scape is three-flowered, and the flowers smaller than those of P. × grande, to which it bears a general resemblance. The dorsal sepal is ovate-lanceolate, with a strongly reflexed crenate margin, and the colour greenish yellow. The petals are pendulous, about five inches long, half an inch wide at the base and narrowed towards the apex, and the colour yellowish, with brown-crimson veins except near the base. The lip most resembles that of P. caudatum, the colour being brownish green, with darker veins, and the infolded side lobes finely dotted with brown-crimson. The staminode is intermediate in character. It is described by Mr. Oakes Ames in a recent number of *American Gardening* (Sept. 23, p. 654), as Selenipedium × Geralda—being dedicated to Mrs. Rockefeller,—but it is now known that this generic name belongs to the tall foliose species of which S. palmifolium is the type.

Lælio-cattleya × Ethelwald.

An interesting hybrid from the collection of the Rev. F. Paynter, Stoke Hill, Guildford, derived from Cattleya Gaskelliana × Lælia Boothiana, and somewhat resembling Lælio-cattleya × Gottoiana. The sepals and petals are rosy-lilac, and the lip, which shows the influence of the Lælia parent in its crisped margin, is rosy-lilac, veined with purple in front, and passing into orange-colour in the centre, and red at the base.—O'Brien in *Gard. Chron.*, Oct. 7, p. 273.

Paphiopedilum × Helvetia.

A hybrid from the collection of John Leemann, Esq., Heaton Mersey, which was purchased from M. Otto Froebel, of Switzerland, and exhibited at the meeting of the Manchester Orchid Society on September 21st last as Cypripedium seedling. The parentage is believed to have been C. Chamberlainianum × philippinense. The dorsal sepal is broadly ovate, acuminate, pale apple green with a white margin, and about a dozen blotched chocolate-purple lines radiating from the base. The petals are three inches long, decurved and reflexed at the tips, twisted, and bearing on the undulate margin ciliated warted protuberances, the colour being greenish white, profusely spotted with chocolate-purple. The lip is pale yellow at the base and the edges of the side lobes, tinged with rose in front, and spotted inside with purple; and the staminode cushion-shaped, emerald green, and shading off to yellowish green at the margin, which bears a conspicuous fringe of blackish hairs.—Cypripedium × Helvetia, O'Brien in *Gard. Chron.*, Oct. 7, p. 273.

LÆLIA × NIGRESCENS.

We are now able to give an illustration of the pretty little Lælia × nigrescens, reproduced from a photograph, kindly sent by Mr. E. A. Orpet, of the plant described at page 291 of our last issue—and here we may remark that by some inexplicable blunder, which was only discovered too late for correction, the plant appeared as "Lælio-cattleya" instead of Lælia, which our readers are requested to correct. Mr. Orpet states that it received a Certificate from the Massachusetts Horticultural Society under the name of Lælia × Alpha, which name was given under the impression that it had not previously been recorded, and in allusion to the fact that is was the first of

FIG. 17. LÆLIA × NIGRESCENS.

over 1,000 seedlings to bloom. The way it combines the characters of the two parents will be at once apparent, it being most like L. pumila, with the sepals and petals considerably elongated. It is a very pretty little plant, and in view of the fact that but little over three years had elapsed from the date of sowing the seed when the first flower appeared, may be expected to improve considerably when it becomes stronger. We believe that several other hybrids of L. tenebrosa may be expected to flower very shortly, as a good many crosses were made with it during the first few years after its introduction, which event dates from a decade ago.

ORCHIDS IN SEASON.

AUTUMN-FLOWERING Orchids are appearing in quantity, and our collections are gay with the brilliant old Cattleya labiata, in a way which a few years ago would have been thought impossible. The first flowers of Cypripedium insigne are also expanding, and some of its hybrids are again in evidence. Vanda cœrulea is another beautiful Orchid specially characteristic of this season, and its charming lilac-blue flowers are always welcome. Then we have the handsome Dendrobium Phalænopsis and D. formosum, together with Lælia autumnalis, while the first flowers of Sophronitis grandiflora have again put in an appearance, and this species will be more or less in evidence for the next six months. Altogether there are good prospects of a bright display of flowers during the month, and the only drawback is that the fogs seem to have set in rather early, and in some urban localities, where they are usually accompanied by smoke and deleterious gases, the buds of some tender species have suffered.

Several interesting Orchids are sent from the collection of A. Baxter, Esq., of Morecambe, by Mr. Roberts. Odontoglossum crispum Bassano, purchased in flower the other day, after receiving an Award of Merit from the R.H.S., is a fine white, with a large red-brown blotch on the lip, and a very dark column, the flower sent showing also a single blotch and a slight purple stain on each lateral sepal. Other forms include a prettily spotted variety, and one flushed with rose in the sepals and petals. There is also a very large and handsomely marked form of O. grande, and the beautiful Oncidium Forbesii, which is seen at its best just now. Lycaste leucantha is characterised by having white petals and lip with green sepals. The warm house is represented by Miltonia Roezlii and Phalænopsis Aphrodite, both in excellent condition.

A particularly large and handsome form of Lælio-cattleya × Schilleriana is sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell). It was received from Brazil, with some others, as L.-c. × elegans, but, as Mr. Broome points out, the lip bears a strong resemblance to Lælia purpurata. The fact is the lip is nearly entire, a character occasionally found in this hybrid; and the other parent, Cattleya intermedia, is too similar in colour to effect much modification in this respect. A very light coloured form of L.-c. × Sallieri is also enclosed, which shows equal evidence of good cultivation.

A very richly coloured form of Cattleya × Hardyana is sent from the collection of R. H. Measures, Esq., The Woodlauds, Streatham, under the name of C. gigas Sanderæ, "an old variety now not often seen." We have not traced when this name first appeared, but the colouring of the lip and the erect petals leave no doubt of its relation to C. Dowiana. The petals

are short, very broad, and of a rich rose-purple, and the lip is of the deepest crimson-purple, which colour extends round the side lobes to near the base. On either side of the throat is a large deep yellow blotch, with some golden veining on the disc. It is clearly a form of the beautiful but variable hybrid between C. Dowiana aurea and C. Warscewiczii. An inflorescence of Cattleya intermedia is also sent, cut from a plant whose longest bulbs are 1½ feet long. It had previously been taken for Lælio-cattleya × elegans, probably on this account.

A fine flower of the handsome Cattleya × Mantinii nobilior, taken from an inflorescence of six, is sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst, by Mr. Robbins; together with a very large and richly coloured form of C. labiata, called C. l. heatonense, and a very brilliant form of C. × Hardyana obtained from Messrs. Charlesworth & Co.'s importations. The latter has very dark sepals and petals, the latter slightly mottled along the centre and veined near the margin, and the lip very richly coloured. A remarkable form of Lælio-cattleya × Schilleriana is also enclosed, in which the elongated sepals and petals are irregularly splashed with rose, also the side lobes of the unusually elongated entire lip.

OBITUARY.

HENRY GREENWOOD.—The Manchester and North of England Orchid Society has lost one of its original founders, in the person of Henry Greenwood, Esq., of Highfield, near Haslingden. Mr. Greenwood was a warm supporter of the Society, and a frequent exhibitor at its meetings; also a member of the Orchid Committee from the commencement. His collection contained many choice varieties and hybrids, and his name is commemorated in one of the latter, Lælio-cattleya × Henry Greenwood, which was adjudged to be the best new generic hybrid exhibited at the Ghent Show last year. It was raised by M. Ch. Maron, from Lælio-cattleya × Schilleriana ♀ and Cattleya × Hardyana ♂.

SYDNEY COURTAULD.—We regret to hear of the death of Sydney Courtauld Esq., at his residence, Bocking Place, Braintree, Essex, on October 10th. The deceased gentleman, who was in his sixtieth year, was a member of the Council of the Royal Horticultural Society, in whose welfare he had long taken a great interest. He was a great lover and successful cultivator of Orchids, and the possessor of a very rich collection of Masdevallias, which may be described as a special hobby of his. His name will be perpetuated in connection with his favourite group, for Masdevallia × Courtauldiana is a very distinct and pretty hybrid which was raised in the collection of N. C. Cookson, Esq., from M. rosea and M. caudata Shuttleworthii.

LÆLIO-CATTLEYA × VERELII.

An interesting natural hybrid Lælio-cattleya has just flowered in the collection of F. W. Vérel, Esq., The Grange, Newlands, near Glasgow. It was purchased two years ago from Messrs. John Cowan & Co., of Liverpool, as "Lælia amanda," but on flowering for the first time, proves to be different. Lælio-cattleya × amanda is believed to be a natural hybrid between Cattleya intermedia and Lælia Boothiana, which is found where these two species grow together in some locality in Southern Brazil. Lælia Boothiana is evidently one parent of the present hybrid, but the other is as clearly Cattleya Forbesii, for the shape of the lip as well as the yellow disc and the characteristic veining, are all strongly stamped upon the hybrid, much in the same way as in Lælio-cattleya × Reginæ (p. 310), which also has C. Forbesii for one parent. In the same district C. Forbesii and C. intermedia also intercross, producing the natural hybrid C. × Krameriana (for which C. × Isabella is perhaps an earlier name), so that the present hybrid completes the possible combinations between the three species. The flower is fairly intermediate in shape, and measures 5½ inches across its broadest diameter. The sepals are seven lines broad, and the more lanceolate petals eleven lines, the colour being lilac-purple with rather darker veins. The lip is 2¼ inches long, and trilobed, with the strongly infolded side lobes flattened, as in C. Forbesii, and the colour and veining externally similar to the sepals and petals. The front lobe is an inch broad, by half as long, and the colour lilac-purple, with numerous radiating rose-purple lines, and a zone of similar colour at the top of the throat, and extending round the apex of the side lobes. The disc is light yellow, veined with reddish purple, in the way so characteristic of C. Forbesii. The column also most resembles this species in shape, and is suffused and veined with purple, while the pollinia are eight in number, four being large and four small, as in all hybrids between the two genera. It is precisely what one might expect to get by crossing the two species together, and it would be interesting to have the parentage confirmed by direct experiment. Whether the hybrid now appears for the first time, I am a little uncertain, but if not it has probably been passed over as L.-c. × amanda, which itself is hardly yet properly understood. Reichenbach called it "a very fine Lælia, no doubt a hybrid, to judge from the unequal pollinia, which suggests a Cattleya parentage," adding, "What were the parents? There is no difficulty in thinking of Cattleya intermedia, from the nature of the lip. The other parent may have been Lælia crispa" (*Gard. Chron.*, 1882, xviii. p. 776). Messrs. Veitch added L. Boothiana as an alternative second parent, and there can scarcely be a doubt that the plant figured in the *Orchid Album* (iii. t. 135) is derived from this

parentage, but I have twice seen so-called amanda's that I suspected were different, but passed them over as possible varieties, hybrids being notoriously variable. These I hope to be able to examine again. It is an interesting but rather tedious process to clear up the history and parentage of some of these natural hybrids.

R. A. ROLFE.

CATTLEYA × MINUCIA.

THIS is a very pretty hybrid, which was raised by Messrs. James Veitch & Sons, from C. Loddigesii ♀ and C. Warscewiczii ♂, and first flowered in 1892. A year later Messrs. W. L. Lewis & Co. exhibited two pretty hybrids under the names of C. × Johnsoniana and C. × Ashtoniana, which were said to have been obtained from C. Harrisoniæ ♀ and C. Warscewiczii ♂, and chiefly differed in colour. Good flowers of these are sent by Messrs. Hugh Low & Co., who point out the strong general resemblance they bear to C. × Minucia, and after comparing them together we are driven to the conclusion that they are varieties of the same. All show strong evidence of descent from C. Loddigesii, and the way that the names of this Cattleya and C. Harrisoniana (an older name for Harrisoniæ) have been transposed in collections would easily account for the way the parentage was recorded. When a hybrid between true C. Harrisoniana and C. Warscewiczii appears, it will probably show some trace of the yellow corrugated disc of the former, but in those named above the disc is smooth and pale yellow, as in C. Loddigesii.

FLOWERING OF CATTLEYA WARSCEWICZII.

IT seems to be generally agreed that this fine species, with it ally C. Dowiana, and the beautiful natural hybrid between them, C. × Hardyana, have flowered extremely well this year. Mr. H. Reed, of Cassiobury, Watford, in a communication to the *Gardeners' Chronicle*, of October 14th (p. 289), remarks of the former:—"Probably the fine bright autum of last year had something to do with the extraordinary flowering of Cattleya Warscewiczii this year, by getting the growths well ripened. We had good strong breaks, and the sunny weather finished them off well, making the flowering of the plants this season quite out of the common. We had 96 per cent. of our plants in flower, and many with seven blooms on a spike, a great many with five and six, very few having less than four large blooms." The present autumn has also been very favourable, but will this fine flowering be repeated next year?

CALENDAR OF OPERATIONS FOR NOVEMBER.

By H. A. BURBERRY, Orchid Specialist, King's Heath, Birmingham.

ALLOW the thermometers to register a few degrees lower than those given for last month. Avoid as far as possible a hot, dry, and close state of the atmosphere, which is detrimental to the health of the plants, and conducive to the free growth of thrips, red spider, and other undesirable pests. Distribute moisture for evaporation in strict accordance with the amount of fire heat used to maintain the required degree of warmth, and do not neglect to put on ventilation at all times when possible.

This is the month for fogs, and Orchids which bloom at this season will consequently suffer more or less from their effects. I refer chiefly to Orchids grown in large towns, for the fogs of country places, which are free from smoke, and the products of combustion, are in no way injurious, but on the other hand are somewhat beneficial. The evil effects of town fogs may be lessened considerably if the ventilators are kept tightly closed during the time they are on, and an abundance of moisture in the atmosphere maintained until it lifts.

It is remarkable how the Cool house Orchids have responded to the cooler conditions of the weather since the great heat has passed away. It was impossible, of course, during that time to maintain conditions thoroughly agreeable to them, and one could only do his best to keep their surroundings as cool as he possibly could without unduly drawing growth by keeping them too dark. Now, however, things have changed, and we have the pseudobulbs once more assuming their usual plumpness, and the foliage that dark green colour which clearly denotes strength and vigour. Avoid excessive watering at this season. I fear that cool Orchids generally get overwatered during the winter months. If the plants are well rooted, it is remarkable what a little water is required to maintain these plants in a healthy state, that is, of course, supposing that the ventilation is well attended to, and the hot water pipes only heated when such heat is required, and then sufficient only to assure the desired temperature.

A good many of the autumn and winter blooming Oncidiums are now in spike or in flower, such for instance as the old and favourite species, O. varicosum, O. tigrinum, O. Forbesii, O. ornithorynchum, O. crispum, and O. Gravesianum. I generally find that if these species bloom during October they are alright in the coolest house, and may be left there to thoroughly rest for the remainder of the winter. But if the blooms have not yet expanded, they usually require a little more warmth than this department affords, so as to hasten them on and give them a chance of producing flowers of better quality, and at the same time of getting the heavy strain of blooming over more quickly, so that the

plants may enjoy that winter's rest which it is so essential that these species should have. This applies also to some other cool Orchids that are now in spike, as Odontoglossum Edwardii and O. ramosissimum. O. grande and O. Insleayi will now have finished blooming, and should be allowed to rest. The proper application of the term 'rest' is somewhat difficult to many beginners in Orchid culture, because the natural requirements of the different species and genera vary so greatly in this respect. It is a point on which a good many are apt to go a little wrong, and which has to be largely learnt by experience and practice. When this is gained, it is at once seen how simple the term is, and its due application to each individual species is less difficult. Some of our Dendrobiums and similar Orchids are, as we know, rested most rigorously, and with capital results, but when we speak of resting such species as Oncidiums and Odontoglossums, it must not be taken as meaning that the same rigorous measures should be dealt out to them, but that they should be kept partially dry, and be allowed to repose in a quiet unexciting temperature, with only sufficient water at the roots to maintain plumpness. It is difficult to lay down rules on the subject, because the species, even of the same genus, often vary in their natural requirements, but a little observation will soon enable one to hit off the proper treatment. Avoid overdoing it, however, for it is possible to do as much harm in this way, as by keeping them active the whole year round.

The beautiful Dendrobium Phalænopsis is now making a grand show. It is a most useful and desirable species to grow, and anyone having the convenience of a warm stove may cultivate it most successfully, but failing that warmth it is not an easy one to succeed with for any length of time. Like all other Dendrobes it greatly dislikes large pans, pots, or baskets, which necessitate much compost round the roots, and this fact must strictly be borne in mind when re-potting old plants, or potting up newly imported ones; the smaller the receptacles the better. They should always be suspended if possible. A large importation has lately come to hand, and no doubt most growers will take the opportunity of adding a few more strong, healthy plants to their stock. When secured they should straightway be potted up, pans or baskets just large enough to cram in the base of the pseudobulbs and roots being selected. They should be neatly wired with strong galvanized wire, so that the tall, stout pseudobulbs may be secured quite firmly, thus preventing the plant from swaying about when handled. They should be suspended in the warm house, and kept moist, but no effort should be made to unduly force them into growth, either by strong heat or too much water. They will gradually emit new breaks from the base of the pseudobulbs, and eventually new roots will appear. This will happen early in the new year, when a little compost of peat and sphagnum moss

should be placed round the base, and the supplies of water gradually increased. Fine growths will then be formed during the ensuing summer, producing in their turn a most beautiful show of flowers.

Pleiones, having finished blooming, will start growing away at once, and therefore should not be kept too dry from now, henceforth. They should be suspended not far away from the glass in a cool temperature, where they will make slow but sturdy headway. If any require repotting it should be be done without delay, before the roots get far advanced.

Odontoglossum citrosmum will now be finishing up its new pseudobulbs, and so must enjoy a long, dry rest, receiving sufficient water only to keep the pseudobulbs from becoming unduly shrivelled. This will ensure free blooming the following spring. This species always grow best in intermediate temperature, and will also do well in the Cool house, but when subjected to the latter treatment the new pseudobulbs have a natural tendency to be very late before being completed.

The beautiful little Sophronitis grandiflora, which is so cheering during the dull months, has also the above habit of becoming late when grown very cool during winter, and when so it is better to treat it to the Intermediate house. Keep this species moist at the roots until the blooming period is over.

Cattleya Bowringiana, when well grown, takes a lot of beating for flowering at this season. Spindly pseudobulbs, that can produce only two or three flowers, are scarcely worth blooming, but with fine, stout ones carrying say from ten to twenty blossoms it is quite another thing, and especially is it so when the variety happens to be of the finest order. Most Cattleyas revel in fairly large supplies of water when making new growth, but with the species in question it is necessary to be always on the guard against getting the compost too saturated, for I find if this happens, a peculiar disease, in the shape of dark coloured markings on the new leaves and pseudobulbs, is apt to appear, and I have known the latter to rot completely off. I do not mean that it is necessary to starve it when growing for the want of sufficient water to enable it to build up strong, sturdy pscudobulbs. This would be equally as bad as the former, and of this method I have seen some examples. Simply avoid much water.

Lælia anceps and its varieties, together with the not less beautiful L. autumnalis, L. Gouldiana, L. furfuracea, and L. Eyermaniana, are now producing their flower spikes freely, and should be pretty liberally watered until blooming is past. No doubt the particularly hardy system of treatment which has previously been mentioned in the Calendars works out extremely well regarding L. anceps, and is the only way to gain the very best results. The same may be urged regarding the other species named, excepting that they will not successfully withstand the same amount of

fierce, bright sunshine, and should therefore be provided with more shade during the summer; and regarding that pretty little species, Lælia albida, the above advice should never be forgotten.

Epidendrum vitellinum I always find grows best in the coolest house during summer, and enjoys a fair amount of moisture, but it does not keep its foliage free from spots and blemishes in all cool structures during the winter months. It is one of these Mexican Orchids, and consequently capable of roughing it a good deal, especially during the winter or resting season. Should, therefore, the cool house be a particularly shady and moist one, the plants would be best removed to a drier, though not necessarily warmer department. The same remarks will also apply to the pretty little Odontoglossums, Rossii and Cervantesii, should the new foliage show signs of immature decay at the apex.

The genus Phalænopsis, where well grown, will this month yield its harvest of beautiful flowers. What can possibly satisfy the most fastidious lover of flowers better than a well-grown spike of either P. Schilleriana or P. amabilis? Because this genus does not respond readily to artificial cultivation, the modern grower of Orchids usually gives it a wide berth. This may, of course, not be due directly to the fact that Phalænopsis has got the name of a miffy doer. It may be attributed, of course, to the arrival in recent years of so many new and grand species, and hybrids of various genera, which have to some extent ousted them. Be that as it may, Phalænopsis still hold their own, and not one recent introduction, with the exception of Dendrobium Phalænopsis, can hold a candle to them for grace and beauty. I know well enough that Phalænopsis have got the reputation of being bad growers on the whole, yet curiously enough they are no trouble whatever to grow in the neighbourhood of London. This may be accounted for I think in two ways, either it is that soot acts on them as a beneficial fertilizer, or it may be that the fact of the flowers rarely opening (the fogs causing the buds to drop) prevents them from becoming weakened. However, the fact remains that they are rarely failures in London, while in country places they frequently are. There are exceptions, however, for they are grown successfully in some collections in the country. How beautiful Mr. Hiems used to grow them for F. A. Philbrick, Esq., Q.C., at Avenue Road, Regent's Park, about eighteen years ago, only those who saw them know. Yet those very same plants did equally well, and if we take the flowering into consideration, better when the establishment was removed to Bickley Park, Kent. It has been said that Phalænopsis require a particularly hot and humid atmosphere to grow them well, and therein lies, I think, the secret of many failures. While admitting that they are uudoubtedly Stove Orchids, and must have considerable warmth, yet they may have too much. Mr. Hiems never used

to keep up a continual and excessive heat, nor an atmosphere like a Turkish Bath. His plants were all grown in baskets, and suspended, and apart from that, used to receive exactly similar treatment to that given to the majority of stove plants; simply being watered when necessary, according to the weather and the season, and kept comparatively dry during the worst of the winter. The temperature, I remember, used to fluctuate as in an ordinary stove. If it happened to descend to an unusually low degree occasionally, say 45° or 50°, no particular notice was taken, and no harm ever accrued, for the atmosphere would be dry at the same time, and what did it matter? It is too much artificial heat and moisture, and forcing generally, during the winter, that ruins the constitution of many a plant, and Phalænopsis are not the least to suffer.

SALE OF ORCHIDS AT THE FIRS, WARWICK.

THE sale of the late Major Mason's Orchids took place on the premises on October 10th, 11th and 12th, and realised the sum of £3,110 13s. Messrs. Protheroe and Morris, of Cheapside, were the auctioneers, and it may be interesting to give the prices for which a few well-known things were sold. Cypripedium insigne giganteum realised the highest individual amount, namely £147, and a few others fetched very good prices. A plant of C. Lawrenceanum Hyeanum with two growths fetched £89 5s., and a second one was sold for £76 13s. C. callosum Sanderæ realised £73 10s., C. insigne Sanderæ £54 12s., and a smaller plant of the same £35 14s. A plant sold as a yellow variety of C. insigne Maulei fetched £32 11s., and C. insigne Dorothy with eight growths £29 8s. C. × Aylingii with three growths fetched 17 guineas. The most valuable Cattleya was C. labiata alba, the sum of £63 being paid for a plant with four pseudobulbs. C. Mossiæ Wageneri fetched £27 6s.; C. × Lord Rothschild £26 5s.; C. intermedia alba £22 1s.; C. Mendelii Miss Little 19 guineas; C. × Fernand Denis with seven pseudobulbs, C. Mossiæ bellissima, C. × Parthenia speciosa, and C. Skinneri alba, each 17 guineas, and C. × Louis Chaton and C. × Mantinii nobilior each 11 guineas. Among Dendrobiums the best price was obtained for D. Phalænopsis album, namely £52 10s.; for a plant with five old and one new pseudobulbs, while a fine specimen plant of D. nobile Ballianum fetched 15 guineas, D. × Gemma (described at page 73 of our third volume) with three pseudobulbs, 13 guineas, and D. Wardianum album with nine pseudobulbs and three leads, 11 guineas. Lælio-cattleya × Berthe Fournier realised £31 10s.; L.-c. × eximia £21; L.-c. × Iolanthe 18 guineas; and L.-c. × Pallas 16 guiueas. Lælia purpurata Littleana fetched £21; L. purpurata Backhouseana 16 guineas; and L. anceps "Bull's White" 15 guineas. Some unflowered seedlings also fetched good prices.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

At the meeting of this Society, held at the Coal Exchange, Manchester, on October 13th last, there was a very good display of Orchids. The members of the Committee present were :—Messrs. G. Shorland Ball (in the chair), W. Thompson, Parker, Cypher, Stevens, Johnson, Upjohn, and Weathers (hon. sec.).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), staged an interesting group, amongst which were two plants of Oncidium ornithorhynchum album, one of which carried two strong spikes of bloom, and received a First Class Certificate, a magnificent plant of O. tigrinum, carrying a flower spike with eighty flowers and buds, which obtained a Cultural Certificate. Cypripedium × Moensii, a fine specimen plant carrying five flowers, and which received a First-class Certificate from this Society on 10th November, 1898 (vol. vi., p. 371), a very good form of C. bellatulum, a plant of the pretty C. purpuratum with three flowers, Vanda Kimballiana, and Trichopilia fragrans.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Sophrocattleya × Cleopatra, a most beautiful and distinct hybrid, with flowers of the brilliant red of the best Sophronitis grandiflora (First-class Certificate), Cypripedium insigne, C. × tessellatum porphryeum (A. M.), and Lælio-cattleya × Ingramii (A. M.).

W. Thompson, Esq., Stone (gr. Mr. Stevens), showed Odontoglossum crispum Daphne, a very distinct form with large spots of a curious light purple colour (First-class Certificate), and a very fine form of Miltonia spectabilis Moreliana, which the Committee expressed a desire to see when the plant had grown stronger. The same exhibitor also staged a miscellaneous group, amongst which the plants named above, and a very fine specimen of Vanda Kimballiana with several good spikes, were conspicuous.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-cattleya × Clonia, a very pretty hybrid between Lælio-cattleya × elegans and C. Warscewiczii Sanderiana, and which would no doubt have secured an award had the sepals and petals been of better form, and L.-c. × Antimachus (C. Warscewiczii × L.-c. × Dominiana), a pretty hybrid, fairly intermediate (Award of Merit).

Mr. Upjohn, gardener to the Earl of Ellesmere, showed a very fine spike of a good form of the beautiful Cymbidium Tracyanum.

Mr. James Cypher, Cheltenham, showed an interesting group, amongst which were noticeable Cypripedium × Moensii (First-class Certificate), and several good forms of Cattleya labiata.

Mr. A. J. Keeling, Bingley, showed Cypripedium Charlesworthii splendens, a yellow variety of C. insigne, in the way of Youngianum, but small and weakly grown, and a very fine form of Lælia praestans (A. M.).

At the Meeting held on October 26th, there was a bright and interesting display, and the members of the Committee present were:—Messrs. G. Shorland Ball (in the chair), Law-Schofield, Thompson, Warburton, Parker, Dr. Hodgkinson, Messrs. Holmes, Stevens, Johnson and Weathers (hon. sec.).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed Cypripedium × Milo superbum, very much in the way of C. × triumphans, but not quite so rich in the colouring of the dorsal sepal (First-class Certificate), C. × Actens, a very beautiful cross between C. × Leeanum and C. insigne Sanderæ, and referred to on page 26 of our present volume as having received an Award of Merit in December last, C. × Lathamianum magnificum, a wonderful large form of this fine hybrid (A. M.), and C. Charlesworthii rubescens, a flower dark in colour and of fair size.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-cattleya × Ada, L.-c. × Schilleriana ("elegans alba") × C. Lueddemanniana, a very fine hybrid (First-class Certificate), L.-c. × Nysa (L. crispa × C. Warscewiczii), Cattleya × Mantinii superba, C. Bowringiana, Angræcum articulatum, Cypripedium × Zurigo (œnanthum superbum × Chamberlainianum), and C. × Helvetia, a hybrid entered as a cross between Chamberlainianum and Lawrenceanum, but in which the Committee failed to see any trace of the latter. The same exhibitor also staged a very effective group of miscellaneous Orchids which received a Silver Medal.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed the pretty Cattleya × Wendlandiana.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Cypripedium × Milo (First-class Certificate), and Odontoglossum crispum Sir Redvers Buller, a very distinct form of remarkable substance, with groundwork nearly white, and numerous bright red spots (First-class Certificate).

W. Thompson, Esq., Stone (gr. Mr. Stevens), staged a small but select group, consisting principally of good forms of Odontoglossums, for which he was awarded a Vote of Thanks.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Odontoglossum crispum ashlandense, a small flower, distinctly marked, and which, when strongly grown, should develope into a very good thing (First-class Certificate).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Cattleya

labiata Petersii marmorata, a very fine form not quite so dark as Petersii, but wider in the segments and much better in form (First-class Certificate).

Messrs. James Veitch & Sons, Chelsea, showed Lælio-cattleya × Epicasta, L.-c. × Duchess of York, L.-c. × Wellsiana (A. M.), L.-c. × Hermione, L.-c. × Mrs. M. Gratrix, a very interesting and pretty cross between L. cinnabarina and L. Digbyana (A. M.), Cattleya × Princess (A. M.), C. × Wendlandiana, and Cypripedium × vexillarium superbum.

Mr. John Robson, Altrincham, showed Epidendrum vitellinum.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Drill Hall, James Street, Westminster, on October 10th, was rather below the average, but included several noteworthy exhibits. The members of the Committee present, were:—J. Gurney Fowler, Esq., in the chair, and Messrs. Bond, Chapman, Colman, Douglas, Haywood, Hill, Jaques, Little, Smee, Young, and O'Brien (hon. sec.).

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a small choice group, to which a Silver Banksian Medal was given. It contained the handsome Cattleya × Maroni, C. × Mantinii nobilior with two fine spikes of seven flowers each, a fine dark form of C. labiata, Cycnoches chlorochilon, two good forms of Odontoglossum crispum, &c.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), sent a handsome form of Cattleya Dowiana called Little's variety, to which an Award of Merit was given. The flower was large and of good shape, the sepals and petals a clear yellow, and the lip broad, and dark claret-purple colour throughout, with the usual golden veining. He also sent a splendid inflorescence of the richly coloured Cattleya × Mantinii nobilior, and a fine form of C. granulosa.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent the remarkable Bulbophyllum grandiflorum, Saccolabium calceolare, and a light form of Odontoglossum grande, called Pitt's variety, in which the usual brown markings were nearly obliterated, the sepals and petals thus being of two shades of yellow, and the lip white, with two or three pale blotches. It received an Award of Merit.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent three splendid forms of Odontoglossum crispum, O. c. Kateæ, a profusely spotted form with rather narrow segments, O. c. Queen Empress, a very fine white, flushed with pink on the sepals, and O. c. Daphne, a remarkable form with light purple sepals, white petals bearing a few purple blotches, and some cinnamon-brown spots on the lip. An Award of Merit was given to the latter.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent Epidendrum Laucheanum, with a long raceme of numerous brownish flowers, and Spathoglottis Fortunei, the latter receiving an Award of Merit.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), sent a pretty form of Lælia × Euterpe called Tyntesfield variety, (L. Dayana × crispa), with lilac sepals and petals, and a dark purple lip with claret-coloured veining in the throat; also a pan of three plants of the charming little Sophrocattleya × Hardyana, varying somewhat in depth of colouring.

De B. Crawshay, Esq., Rosefield, Sevenoaks, sent a large and richly coloured form of Lælia pumila, and a light coloured form of Cattleya × Hardyana, with sepals and petals cream white, faintly freckled with lavendar, and the richly coloured lip having a bright yellow area on either side about the middle.

Messrs. James Veitch & Sons, Chelsea, sent two plants of Cattleya × Minerva, a very pretty hybrid derived from C. Bowringiana ♀ and C. Loddigesii ♂. It most resembles the former in habit and the latter in the the shape of the flowers, the sepals and petals being bright lilac-rose in colour, and the lip similar, with a light yellow disc and some purplish veining in front.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed a pretty little group, some good forms of Cattleya labiata, C. Gaskelliana alba, C. × Mantinii, Cymbidium Tracyanum, and the pretty hybrid Cypripedium × Olivia (niveum × tonsum), together with examples of each parent.

Messrs. F. Sander & Co., St. Albans, sent the remarkable Bulbophyllum grandiflorum with two flowers and an unopened bud, and the pretty little Stenoglottis longifolia.

At the meeting held on October 24th, there was a very good display of Orchids, in which forms of the beautiful Cattleya labiata formed a prominent part. The Members of the Orchid Committee present were:— H. J. Veitch, Esq., in the chair, and Messrs. Ballantine, Chapman, Crawshay, Douglas, Fowler, Hill, Jaques, Little, Thorn, Young, and O'Brien (hon. sec.).

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a brilliant little group, to which a Silver Flora Medal was given. It contained some fine examples of Cattleya labiata, including forms both with white and coloured segments, C. × Mantinii, Lælia pumila, L. autumnalis atrorubens, with a fine inflorescence of nine flowers, a form of Oncidium tigrinum with a nearly white lip, and other good things.

F. Knight, Esq., Thundersley, Essex (gr. Mr. Marston), also staged a brilliant group, to which a Silver Banksian Medal was given. It contained some good forms of Cattleya labiata and Dendrobium Phalænopsis,

together with D. formosum giganteum and Cypripedium Charlesworthii.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent Lælia pumila magnifica, and Lælio-cattleya × Gottoiana marmorâta, the latter bearing a five-flowered inflorescence of large light rose-coloured flowers, which are curiously marbled with rose-purple.

Her Grace the Duchess of Northumberland, Stanwick, Darlington (gr. Mr. Higgie), sent a fine inflorescence of Vanda cœrulea, bearing twenty-two well-coloured flowers, for which a Vote of Thanks was accorded.

E. S. Clark, Esq., Oak Alyn, near Wrexham (gr. Mr. Edwards), sent the handsome Cattleya × Mantinii nobilior.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), showed two fine inflorescences of Cattleya Bowringiana.

H. Tate, Esq., Allerton Beeches, near Liverpool, sent a flower of a hybrid Orchid supposed to have originated from Lælia tenebrosa and Cattleya × Hardyana.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a fine group of Orchids, to which a Silver Flora Medal was given. It contained the brilliant little Sophrocattleya × eximia, with bright purple-red sepals and petals, and dark ruby-red lip, some fine forms of Cattleya labiata, the beautiful Cattleya × Wendlandiana and C. × Eurydice, a hand-some form of Lælio-cattleya × Wellsiana, L.-c. × Hermione, and L.-c. × Epicasta, Oncidium × Forbesii and O. varicosum, Cypripedium Charles-worthii, a good specimen of C. × vexillarium superbum, the beautiful C. × œnanthum superbum, C. purpuratum with five flowers, and other interesting things, of which the three following each received an Award of Merit :—Lælia × Mrs. M. Gratrix (L. cinnabarina ♀ × L. Digbyana ♂) is a remarkable hybrid, with flowers about five inches across, the sepals and petals buff yellow, and the three-lobed lip, light yellow, tinged with rose on the front and side lobes, and irregularly fringed. Lælio-cattleya × Duchess of York (Lælia crispa ♀ × Cattleya Gaskelliana ♂), is a beautiful hybrid approaching nearer to L.-c. × exoniensis than most others; the sepals and petals white, slightly tinged with pink, and the crisped lip white at the base, lemon-yellow on the disc, and the front lobe bright ruby purple, and somewhat elongated. Cattleya × Princess (Lueddemaniana ♀ × Trianæ ♂), is a very fine hybrid with pale rose-coloured sepals and petals of great breadth, and the lip bright reddish purple, with radiating coloured lines on the disc.

Mr. E. Kromer, Roraima Nursery, Bandon Hill, Beddington, also staged a fine group, to which a Silver Banksian Medal was given. It contained about thirty-five varieties of Cattleya labiata imported by the exhibitor, some being very richly coloured, and one pale lilac form having the lip petal-like in shape; C. granulosa, C. Leopoldi, the interesting natural

hybrid, C. × venosa, forms of Lælia pumila, Lælio-cattleya × Schilleriana, Sophronitis grandiflora with a twin-flowered inflorescence, &c.

Mr. J. W. Moore, Cragg Royd Nurseries, Rawdon, near Leeds, showed a very curious form of Cypripedium Charlesworthii, from which the usual colour and markings had vanished, leaving the dorsal sepal white and the petals and lip of a pale greenish tint.

ORCHID PORTRAITS.

Aspasia lunata, Lindl.—*Lindenia*, t. 669.

Bulbophyllum mandibulare.—*Gard. Chron.*, Oct. 14, p. 293, fig. 99.

Cattleya Loddigesii var. Harrisoniæ, Veitch.—*Lindenia*, t. 667.—This is the typical C. Loddigesii, Lindl., not the so-called var. Harrisoniæ, which is identical with C. Harrisoniana, Lindl., and a distinct species.

Cattleya Mossiæ Beauty of Bush Hill.—*Gard. Mag.*, Oct. 14, pp. 642, 643, with fig.

Cattleya Warscewiczii.—*Gard. Chron.*, Oct. 7, pp. 280, 281, fig. 95.

Cypripedium × Arthurianum pulchellum.—*Journ. of Hort.*, Oct. 12, p. 308, fig. 61.

Cypripedium bellatulum var. Chotekæ, L. Lind.—*Lindenia*, t. 665.

Cypripedium × Haumonti, L. Lind.—*Lindenia*, t. 668.

Cypripedium × œno-superbiens.—*Journ. of Hort.*, Oct. 19, p. 341, fig. 67.

Cypripedium Parishii, Rchb. f.—*Lindenia*, t. 670.

Lælio-cattleya × elegans Harold Measures.—*Journ. of Hort.*, Oct. 12, pp. 308, 309, fig. 62.

Odontoglossum crispum Daphne.—*Gard. Chron.*, Oct. 21, p. 307, fig. 103.

Odontoglossum × Ruckerianum var. Gournayanum, L. Lind.—*Lindenia*, t. 671.

Odontoglossum Schlieperianum var. xanthinum, L. Lind.—*Lindenia*, t. 672.

Odontoglossum × Wilckeanum var. Ginotianum, L. Lind.—*Lindenia*, t. 666.

Schomburgkia Lyonsii.—*Gard. Mag.*, Sept. 30, p. 608, with fig.

Zygopetalum xanthinum.—*Gard. Mag.*, Sept. 30, p. 608, with fig.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

G.M.L. Saccolabium obliquum, Lindl.

Photographs received with thanks. G.I.

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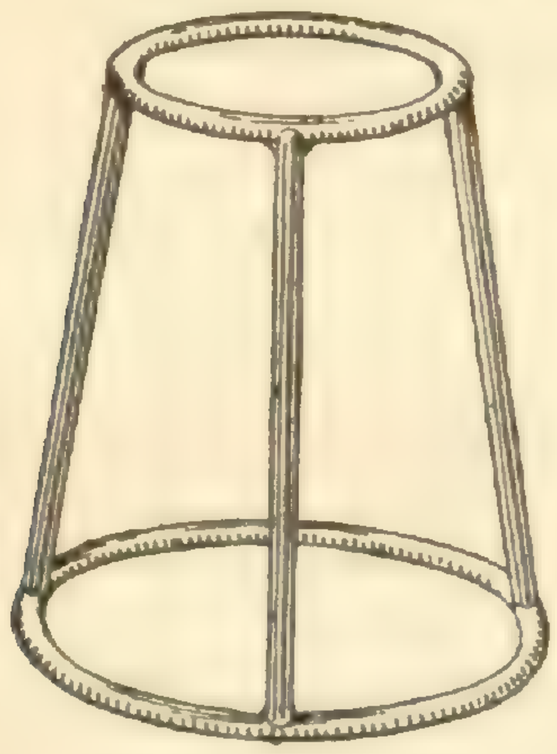

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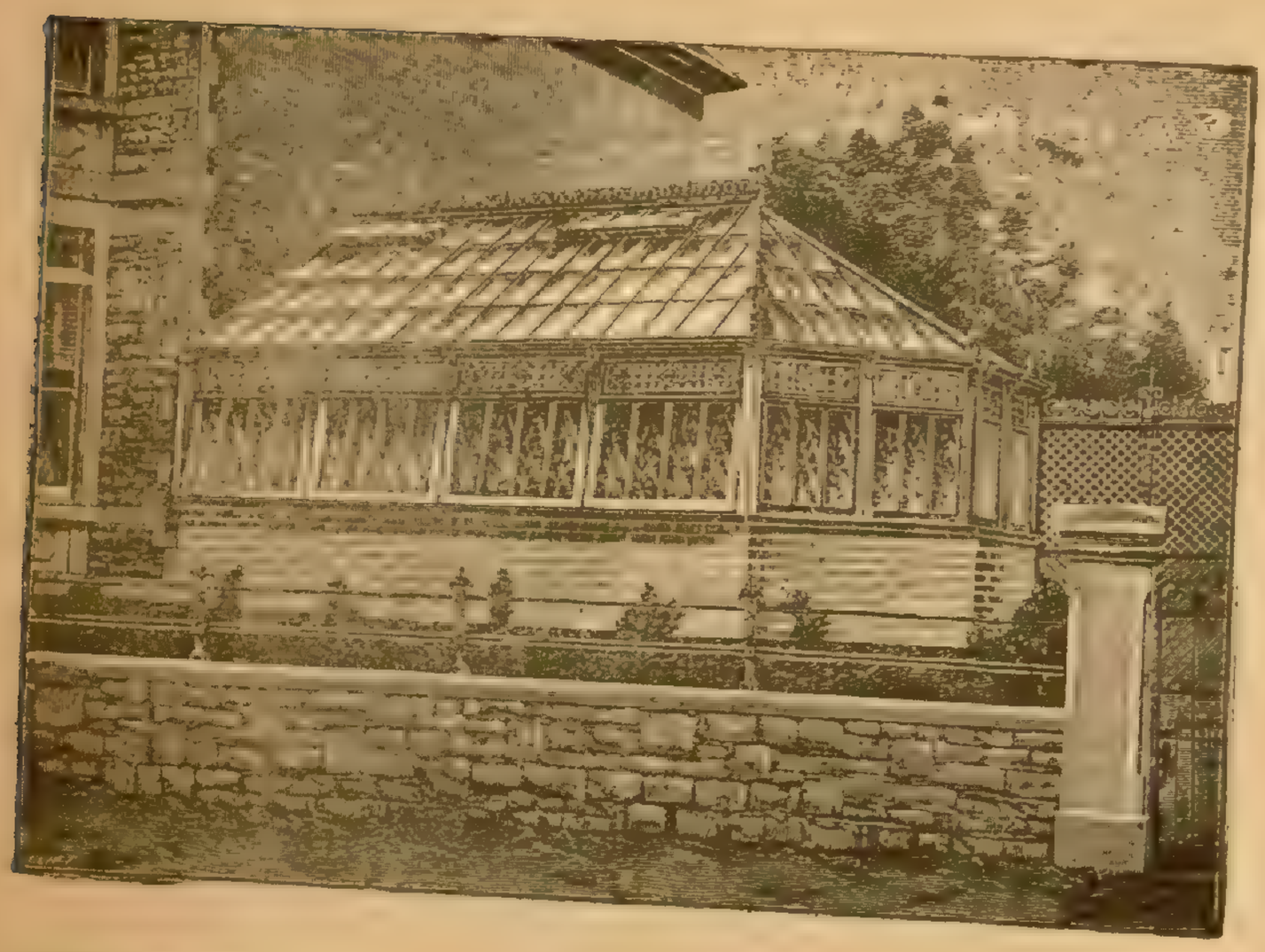

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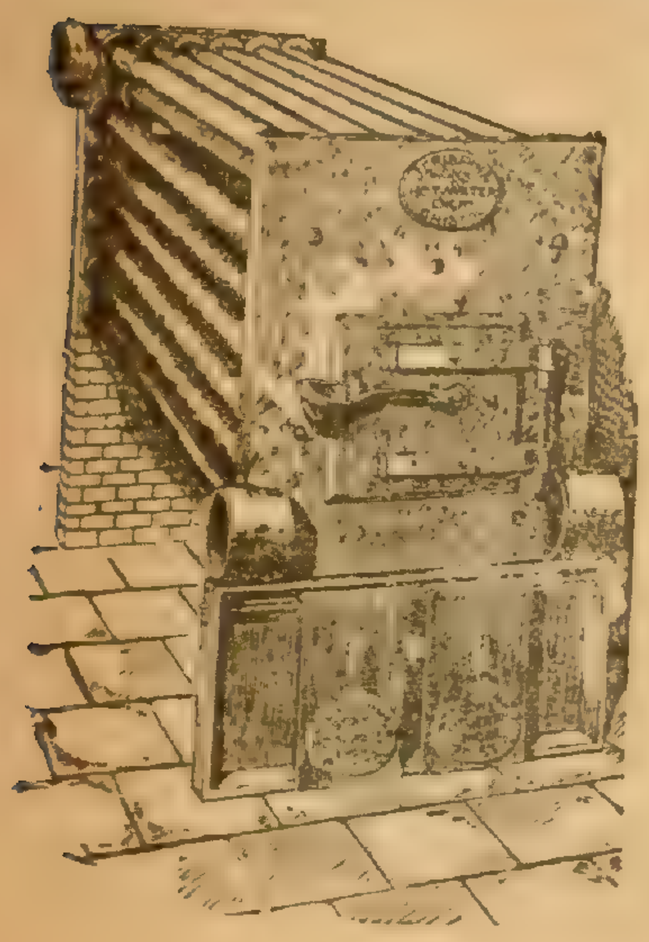

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VII.] *DECEMBER*, 1899. [No. 84.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during December, on the 5th and 19th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on December 14th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

The hybrids of Lælia Perrinii prove to be great acquisitions as autumn flowering plants. Magnificent inflorescences of Lælio-cattleya × Statteriana and L.-c. × Semiramis are sent from the collection of the Right Hon. J. Chamberlain, M.P., by Mr. Smith. The former has three flowers, which rival those of C. labiata, the pollen parent, in richness of colouring, the sepals and petals being rosy-lilac, and the lip of the darkest crimson-purple, which colour extends right round the side lobes half way to the base, leaving the throat only of a rather lighter shade. The second, L.-c. × Semiramis, is still stronger, having four flowers, and considering that the allied Cattleya Gaskelliana was the pollen parent, it is remarkable how much it differs from the preceding in the details of the lip. The shape is more undulate, the crimson-purple lighter in shade, and only extending round the apex of the side lobes as a narrow band, while at the throat is found a large area nearly white in colour. The sepals and petals, however, are very similar, both in shape and colour. The scapes are stout, and the flowers large and well-developed—in short, they form excellent examples of good culture.

A good inflorescence of the handsome Lælio-cattleya × massiliensis is also sent from the same collection. Its history has already been given (*ante*, v. pp. 357, 358), and the present flowers confirm the view expressed that Lælia crispa was one of the parents, for its characters are as strongly marked as in the case of Lælio-cattleya × exoniensis, L.-c. × Pallas, and others which were certainly derived from it. The other parent was probably Cattleya Trianæ, as originally recorded, but there is no trace of C. Dowiana, and this species must be dropped from the record of parentage. Flowers of another plant which was purchased as L.-c. × Josephine, with record of parentage "L. purpurata × C. chocoensis" are also sent, but are almost identical with the preceding, and are believed to represent the same hybrid. The crisped petals and lip could only have come from L. crispa.

Another handsome plant is Dendrobium Phalænopsis highburiense, in which the flower is a peculiar reddish plum-colour, especially on the petals and lip, and quite distinct from anything that we have previously seen.

A fine flower of the superb Cattleya × Hardyana Countess of Derby is sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, by Mr. Johnson. It was described in these pages five years ago (ii., p. 294), when it appeared at the Drill Hall as C. Warscewiczii Countess of Derby, and received a First-class Certificate, and now it has received a similar honour from the Manchester and North of England Orchid Society, together with a Silver-gilt Medal. Doubts having been expressed as to the correctness of the name now adopted, we have again made a careful comparison with C. × Hardyana and its two parents (living flowers of each, fortunately, being available), and have no hesitation in saying that, apart from colour, it agrees with C. × Hardyana, of which it is a remarkable colour variety. C. Warscewiczii and C. Dowiana differ very markedly in the shape and direction of the petals, and the present variety does not agree at all with the former, but like most forms of the hybrid comes much nearer to the latter. The lip has also the unmistakable colour of C. Dowiana, together with the golden veining of the disc, and even the eye-like blotches derived from C. Warscewiczii are modified in detail by the same influence. The brilliant contrast between the richly coloured lip and the white sepals and petals renders it the most striking variety which we have seen.

A very striking form of Odontoglossum crispum is sent from the collection of R. Brooman White, Esq.. of Arddarroch. It was shown at the Drill Hall on November 7th as O. c. xanthotes Brooman White's variety, but was passed over by the Committee, it is said because O. c. xanthotes had already received a First-class Certificate. Of the latter, a

photographic illustration has appeared in these pages (*ante* ii. p. 305, fig. 29), and on comparison we find that the present one is quite distinct. The sepals and petals are proportionally broader, and hence the flower is fuller and rounder, and each sepal bears a large irregular deep yellow blotch in the centre, while the lip has a regular row of about eleven deep yellow blotches between the margin and the lighter yellow disc. The two are much more distinct than some of the spotted forms which have received distinct varietal names, and both on this account and because the varietal name given consists of four words we regret that it was not named differently.

A curiously abnormal flower of Cattleya Bowringiana is sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. The two petals and the dorsal sepal are united into a single broad petal-like body, which occupies the position of the latter, and thus the perianth is reduced to four segments. The other twelve flowers on the scape are normal in character.

Flowers of the charming yellow Odontoglossum called O. × loochristiense "Canary Bird," which received a First-class Certificate from the Manchester Orchid Society, and an Award of Merit from the R.H.S., at their last meetings, are sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. The sepals bear numerous small red-brown blotches, and contrast effectively with the clear yellow petals, which in two cases only show traces of spots. Mr. Stevens states that it is not a home raised seedling, but appeared as an imported plant, which suggests the question whether it may not be a variety of O. × excellens, in any case it is different from the hybrids raised by M. Ch. Vuylsteke, from O. crispum and O. triumphans, and named O. × loochristiense. Whether this may not also occur as a wild plant is a point worth consideration, especially in view of the note by M. Claes at p. 327 of our last issue. In any case the plant is very beautiful, and being yet rather small is likely to improve under Mr. Stevens' treatment.

OBITUARY.

Richard Moore.—It is with deep regret that we hear of the death on August 18th last, of Mr. Richard Moore, Western Sub-divisional Magistrate of Rangoon, late Officiating Assistant Superintendent of the Southern Shan States, at the early age of thirty-nine years. The *Rangoon Gazette* of September 4th says:—"It is presumed that the Red Sea passage proved too much for him. He had been in bad health for months past, suffering from attacks of malaria, and went home (to England) in May on a

three months' leave. Mr. Moore came out from home about eighteen years ago, as a teacher in the Rangoon College High School. There he remained for some years under the late Mr. Gilbert, and in 1888 was appointed to the subordinate commission. Much of his service was in the Shan States. Four years ago he came to Rangoon as Magistrate of the Western Sub-division." Mr. Moore was ill from fever when he left England, and this was intensified by a chill, caught by sleeping on deck in the Red Sea, and followed by heart complications, from which he succumbed. Mr. Moore will be remembered by Orchidists for his discovery of the beautiful Cypripedium Charlesworthii—of which a coloured plate was given in our first volume—C. × Fred Hardy, C. bellatulum album (both also figured in these pages), Dendrobium sarmentosum, and Vanda × Moorei. He also sent many of the showy Burmese Dendrobiums and other Orchids to the establishment of his brother, Mr. J. W. Moore, of Rawdon, near Leeds. He had an excellent knowledge of the showier Burmese Orchids, and our readers will specially recall the most interesting article from his pen, "Orchids of the Shan States," which appeared in our second volume (pp. 169-172), in which the discovery of Cypripedium Charlesworthii is detailed, and information given respecting the habitats of other Burmese Orchids.

GEORGES WAROCQUE.—*La Semaine Horticole* for October 28th, announces the death of M. Georges Warocqué, of Château de Mariemont, near Charleroi, Belgium, which took place at Pekin, China, where he was travelling, and at a time when he was about to return home. M. Warocqué was a great lover of Orchids, of which he had a very fine collection, and at the Ghent Quinquennial Exhibition in 1893, he gained second honours for a magnificent group of one hundred plants, besides gaining first prizes in other classes. In 1898 he was one of the jurors of Orchids, but not an exhibitor. His name is commemorated in Stauropsis Warocqueana (Rolfe in *Lindenia*, viii. t. 319). Cattleya Warocqueana was also named after him before its identity with the old C. labiata was known.

F. CANHAM.—The death of Mr. F. Canham, for some years gardener to C. H. Feiling, Esq., Southgate House, Southgate, is also announced, as having taken place somewhat suddenly on October 30th last. The deceased was brother to Mr. Chas. Canham, for many years Orchid grower to Messrs. James Veitch & Sons, and was an excellent all round gardener. Although not formerly a professional Orchid grower, says the *Gardeners' Chronicle*, when Mr. Feiling wished to include a good collection of Orchids among the subjects in his gardens, Mr. Canham undertook their management, and with the same good results which followed his endeavours in other branches of his art.

ODONTOGLOSSUM CERVANTESII.

(*See* FRONTISPIECE).

THE frontispiece to the present volume represents a good specimen of the charming little Odontoglossum Cervantesii, from the collection of R. W. Rickards, Esq., The Priory, Usk, Monmouthshire. The photograph was accompanied by the following interesting note:—"I enclose a photograph of Odontoglossum Cervantesii which may interest you, as it is not a species that always grows and flowers so freely as this. My Odontoglossums have done wonderfully well this year, in spite of the unfavourable weather from May to October; a fact which I attribute very largely to the use of the food supply (to avoid the word "manure," which in my opinion is not a suitable term) recommended by Mr. Norman Cookson in your May number (pp. 144, 176). Odontoglossums have always done well with me, but I think never so well as this year. I have, for instance, one plant of O. crispum bearing a six-branched spike carrying 37 buds, and another having four spikes on top of the bulb (7, 3, 2, and 1 flower buds) in addition to the normal spike of 10 buds at the side of the bulb. Both these plants have been four years in my possession, and carry leaves on all the four last bulbs."

Evidence seems to be accumulating in favour of the method of feeding above alluded to, and so simple and apparently effective a method ought to prove of great use to Orchid growers. Certain it is that Orchids can be starved just as easily as many other plants, and we have sometimes seen them in this condition, yet there is a strong prejudice in the minds of many people against the use of what is termed "manure" in any form. What is wanted is a knowledge of the kind of food required, and how to supply it, and it can hardly be doubted that the above is a step in the right direction. It would be interesting to hear the results of any other experiments. The photograph here re-produced represents a very effective little specimen, and it is when well grown that the decorative value of these plants is best apparent.

A CURIOUS SEEDLING.

On a seed-pod of Cypripedium × Lathamianum fertilised by C. × euryandrum in my collection is growing a small seedling, which has already four roots. The seed pod is quite green, and the young plant grows from the very base of the seed pod. I fancy this seldom occurs?

Florence. H. J. Ross.

[This is certainly curious, and unless it is a stray seedling which has accidentally lodged there, or a growth from an adventitious bud, it would

appear to be an example of a seed germinating within the capsule itself. It would be interesting to know the age of the capsule, and whether it had opened before the young plant appeared. It is difficult to offer an explanation without knowing more particulars.—Ed.]

EULOPHIELLA PEETERSIANA.

The history of this remarkable plant seems to come in small instalments. The following note by Mr. J. O'Brien appears in the *Gardeners' Chronicle* for November 11th last (p. 353) :—

"In the *Gardeners' Chronicle* for 1876, i., p. 240, the late Professor Reichenbach described Grammatophyllum Rœmplerianum from a faded dried specimen furnished by M. Luddemann, of Paris, and obtained by him from M. Rœmpler, of Nancy, who had imported a few plants of it from Madagascar. The author was enthusiastic in his praise of the stately novelty, but was unable to give the colours, or finer details of the structure, by reason of the indifferent quality of the flowers on which he based his description. About the same time M. Rœmpler sold his plants, all of which were in a very poor condition, in London, and some half-dozen of the larger pieces, consisting of elongated, conical pseudo-bulbs, curving upwards distantly from stout rhizomes, came into my hands. The growth-buds of all were black and, as I found afterwards, dead ; but I succeeded in keeping the stems alive for between three and four years, hoping that from some portion of them a growth might proceed, but the hope was never realised. I assume all of the importation failed likewise, for I never heard of one that grew. In the *Gardeners' Chronicle*, March 20th, 1897, p. 182, Dr. Kränzlin described as Eulophiella Peetersiana, from material sent by M. Peeters, of Brussels, and Messrs. F. Sander & Co., St. Albans, a giant Orchid which had been discovered by M. Mocoris [Moquerys] in the island of Madagascar. The description at once reminded me of my troublesome subject, Grammatophyllum Rœmplerianum, and on seeing the plant in flower in Sir Trevor Lawrence's collection, I had no doubt that it was the same thing, for it is scarcely likely that two such plants, distinct from each other, can exist in the same locality. I therefore place my ideas on the subject on record in the hope of giving some assistance in determining the specimen in Reichenbach's herbarium named by him G. Rœmplerianum."

Reichenbach's note in question is as follows :—"Unexpected pleasures are the best ones. Would you have believed in a new large-flowered Grammatophyllum, with a lip resembling that of Phains tuberculosus, but without its basilar fur? The flowers are larger than those of the favourite Grammatophyllum Ellisii, Lindl., scarcely smaller than those of the three heroes of the beautiful genus, macranthum, speciosum, Wallisii. There it

is, the newest sailor from Madagascar, if I rightly understand, *en route* for Mr. Steven's enormous room. The texture of the flowers, as far as I may judge of it from dry specimens, is unusually strong and firm. Sepals oblong; petals ovate; lip trifid, the side laciniæ bread, angled, the middle laciniæ protracted, narrower, emarginate. There are two grand obtuse-angled lamellæ, and a small one between before the base of column, three smaller angular lamellæ before the end of the lip, and both connected with emerging lines. 'Colours?' Don't ask too much. The flower looks as if it had been white or light yellow, but I can take no responsibility But what I see most decidedly is some purplish hue on the tip of the lip. I obtained the flowers from my excellent correspondent, Mr. Luddemann, 18, Boulevard d'Italie, Paris, the famous Orchid grower, who once directed Mr. Pescatore's Orchidic Eden. They have been obtained by Mr. Rœmpler, of Nancy, who is said to have made a curious importation from that mysterious island Madagascar."

After comparing this note with dried speciniens and figures I am quite satisfied that the two plants are identical, so that another chapter is added to the history of this remarkable plant. It was the absence of flowers which prevented its being recognised when my original note was written (*ante*, v., p. 67), for I compared it at the time, but came to the conclusion that the description did not agree.

R. A. R.

THE HYBRIDIST.

Lælio-cattleya × Wrigleyi.

This is a very interesting and pretty hybrid, raised in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, from Lælia anceps ♀ and Cattleya Bowringiana ♂. The cross was effected about ten years ago, and thus it has taken nearly ten years to reach the lowering stage. It is unmistakably intermediate between the two parents. A short scape carries a single terminal flower, which is most like Lælia anceps in the shape of the sepals and petals, but has an entire lip, approaching the Cattleya in shape but the other parent in the characteristic markings in the throat. The column is about intermediate in size and shape—that of the Cattleya parent being only half as large as in the Lælia—and the pollinia are just those of Lælio-cattleya, four large and four small. The sepal sand petals are of a pretty rose-purple shade, the front of the lip much darker, with a yellowish white area at the top of the throat, which latter is marked almost exactly as in Lælia anceps. Mr. Wrigley remarks that it is interesting to him as the "only seedling Lælio-cattleya" which he has "raised and bloomed." We hope that he will take care of it and grow it strongly, when

it ought to prove a fine thing. Both parents are popular autumn-flowering species of easy culture, the Lælia bearing normally several, and the other many flowers, from which it is evident that the hybrid has not yet nearly reached its full development.

Lycaste × Janetæ.

This is an interesting and pretty hybrid raised in the collection of H. J. Ross, Esq., Florence, Italy, from Lycaste Skinneri ♀ and L. Rossiana ♂. The seen was sown four years ago, and one of the plants, though still small, has produced a first flower, which is kindly sent. It is quite intermediate in size and shape between the parents, though the colour is rather different from what might have been anticipated. The sepals and petals are greenish yellow, densely and minutely spotted with brown, the spots being more or less suffused except near the margin; petals yellow, dotted with red-brown on the lower half; lip with the reflexed front lobe yellow; the rest, including the small crest, densely spotted with red-brown, and the base of the column deep red purple. The character of L. Skinneri is so little in evidence that it is doubtful if its origin would have been guessed, but this may be more apparent as the plant becomes strong. It is dedicated to Mrs. Janet Ross, who shares her husband's love for Orchids, and of whose skill as an artist we have had evidence on several occasions.

WILD ORCHISES IN THE GARDEN.

In a lecture entitled "Wild Flowers in the Garden," delivered by Mr. George Bunyard, V.M.H., at a recent meeting at the Horticultural Club, reference was made to the suitability of certain wild plants for planting in woodland drives, and similar places where the grass is not kept short by close mowing, and the following allusion to the wild Orchises was made:—"In summer the wild Orchises give us both striking flowers and interesting species for massing in special positions. O. mascula and its numerous varieties are good, and I have seen O. maculata in Scotland called O. magnifica, which was specially grand. The Butterfly Orchis (Habenaria) with its elegant spikes of pale scented primrose flowers, delights in a shady nook. The Tway-blade, the Man Orchis, and the less common O. fusca, O. pyramidalis, while Orphys apifera, O. muscifera, and Orchis latifolia are worth close inspection, and for shady places the Epipactis are well worth prepared stations in the garden, affording them leaf-soil, chalk, or sandy loam, as required.

ODONTOGLOSSUM × DENISONÆ CHESTERTONI.

THE annexed figure represents a most beautiful Odontoglossum, and one whose history has been sadly confused, as will be seen from the following note. It appeared in an importation of O. crispum sent by the late Mr. J. C. Chesterton to Messrs. James Veitch & Sons, and flowered in 1876, being exhibited at a meeting of the R.H.S. on March 15th, as Odontoglossum Chestertoni, and received a First-class Certificate. It was briefly recorded as a distinct form, with creamy white flowers bearing large brown spots (*Gard. Chron.*, 1876, v. 374). In 1885, a coloured figure of what purported to be the same thing appeared in the *Orchidophile* (1885, p. 133, fig. 8), though, as will presently be seen, it is something very different. Two years later the original plant appeared as O. crispum Chestertoni, Rchb. f.

FIG. 18. ODONTOGLOSSUM × DENISONÆ CHESTERTONI.

(*Veitch Man. Orch.*, i. p. 26), with the note that it is "now in the collection of Baron Schröder." It is thus described :—"Sepals and petals broad, the sepals white with two large and one small reddish brown transverse blotch; the petals also white with two to five reddish brown spots: the lip reddish brown with a broad reddish white margin." The flower here figured was taken from that very plant, and was photographed by Mr. G. I'Anson, of Bush Hill Park, who kindly forwarded the copy here reproduced. In the second *Catalogue of the Fernside Collection* is a coloured figure of "O. Chestertoni Lee's grand variety" (p. 8, n. 124, t. 4, fig. 143), which is again very different. This confusion was briefly alluded to in these pages some time ago (*ante*, v. pp. 73-75), but the publication of the present figure should

set the matter of what the true plant is at rest. Its botanical status is almost equally clear, for it is evidently a natural hybrid between O. luteo-purpureum and O. crispum, being quite intermediate in the shape of the flower, including the column wings and crest. Thus the name O. × Chestertoni ante-dates the familiar O. × Wilckeanum by four years, but as O. × Denisonæ is still older by six years there can be no doubt as to which is the proper name to be adopted. The *Orchidophile* figure represents another form of the same hybrid in which the spots are light brown and distributed almost regularly over the sepals and petals, while the so-called Lee's variety has the spots smaller and still more regular, with the true crispum shape, and apparently belongs to the latter species. Both O. crispum and O. × Denisonæ are extremely polymorphic, and there are a few forms which it is at present difficult to refer to their correct position. Some which have been referred to O. crispum are, however, clearly of hybrid origin, and among them the present beautiful form must be included. The heavily blotched sepals form a striking contrast with the nearly unspotted petals, and it is remarkable that so distinct a plant should have been so much confused.

R.A.R.

ORCHIDS IN SEASON.

THE fine old Cattleya labiata has again made a magnificent display, and like several other species presents a great amount of variation, a character very well shown in three good forms sent from the collection of R. B. Macbean, Esq., of Lancaster. Two others sent from the collection of J. F. Laycock, Esq., Wiseton, Bawtry, Notts, by Mr. Lamb, are very distinct. One has the sepals and petals irregularly splashed with purple on a lighter ground, and a large, richly-coloured pencilled blotch on the lip; the other has very broad, rounded petals, over 2½ inches across, and rosy lilac in colour, and the front lobe of the lip nearly white, except at the margin, with a few crimson streaks on the nerves. A light form of C. Bowringiana with very rounded petals, over 1½ inches broad, is also sent, and a very pretty Odontoglossum × Denisonæ, in which the large red-brown blotches are fairly evenly distributed over the yellow sepals and petals.

A superb white form of C. labiata from the collection of R. Ashworth, Esq., Newchurch, near Manchester, illustrates the difficulty of naming some of these closely allied forms. Mr. Pidsley remarks that it was exhibited at the last meeting of the R.H.S. as C. l. White Empress, but was thought too much like C. l. Gilmouræ to receive any award. Two days later it received a First-class Certificate from

the Manchester Orchid Society under the latter name. It is very large and beautiful, the petals being $2\frac{3}{4}$ inches broad, and the colour pure white, with a large obcordate crimson-purple blotch in front of the yellow disc. The earliest form of this white type with some crimson-purple in front of the lip was C. l. elegans, described in our first volume, and between this and C. l. alba we have a series of beautiful varieties which have been named and exhibited, but how far some of them differ from each other could only be ascertained by comparing them side by side. They chiefly differ, however, in the amount of colour on the lip, and some may be considered rather as individuals than as varieties in the true sense.

A superb inflorescence of Cattleya Dowiana aurea, together with one of C. × Hardyana, are sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, by Mr. Johnson. The former has the sepals and petals clear yellow, and the lip evenly veined with deep crimson and yellow, except a small area in front, which is wholly crimson. The latter is very similar in shape, except that the petals are rather flatter. In colour the sepals and petals are delicate blush, with the slightest trace of marbling, and the lip rich crimson-purple in front, veined with yellow on the disc and throat, and with a pair of large light yellow eye-like blotches on the side. They are beautiful examples of good culture. Fine flowers of the beautiful Lælio-cattleya × Statteriana and L.-c. × Ingrami are also sent.

Oncidium varicosum is extremely effective just now, and the amount of variation it presents is well illustrated by three forms sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth. One, considered as fairly typical, has the lip very little over an inch broad—and smaller forms are known—and compared with this the variety Rogersii is a veritable giant, for the lip of the flower sent measures over $2\frac{3}{4}$ inches in diameter, and a panicle of such flowers is extremely effective. The third flower is larger than the type, and has a solid red-brown blotch at the base of the lip, and although part of the same clump, it evidently belongs to another plant. In the character of the crest it approaches the variety insigne (*ante*, vi, p. 27).

A fine flower of Paphiopedilum × Indra (callosum × villosum), or what is believed to be that, is also sent from the same collection, together with P. × Galatea, and what we take to be P. × Euryale, because of the combined characters of P. Lawrenceanum and P. superbiens which it presents. All are very useful and effective at this season, but the first-named has a great tendency to an irregular twist of the dorsal sepal, which rather detracts from its merit.

P. Charlesworthii maintains its character as a most attractive and useful species, though its flowers are not so lasting as most others. A

splendid flower of P. Charlesworthii giganteum is sent from the collection of Major-General Gillespie, of Brynderwen, Usk, in which the dorsal sepal is slightly over three inches in diameter, and very beautifully coloured.

Two fine forms of P. insigne are sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. "Harefield Hall var," is an extremely fine thing, having the dorsal sepal nearly $2\frac{3}{4}$ inches across, and the blotches rather large. "Upland's var." is remarkably similar and only very slightly smaller.

YELLOW CATTLEYAS: A HINT TO HYBRIDISTS.

In a recent issue of *Revue Horticole*, Mr. C. H. Maron, a well-known Orchidophile, makes some suggestive observations with regard to the production of the yellow colour in new hybrid Cattleyas. Up to the present time, the facts would point to the conclusion that Lælia flava has not been much used with this object in view, reliance being placed on C. Dowiana aurea, the colour of which, however, is by no means a true yellow; and in all the hybrids of which it has been the base, the yellow colour of the segments has given place to a colour of more or less decided rose. The colour of C. D. aurea is a mixture of gamboge and rose cerise; that of L. flava is a positively pure yellow. The writer proceeds to illustrate his point by a reference to the success attained by fertilizing C. Percivaliana with L. flava, when he obtained the very distinctly yellow Lælio-cattleya × Ernesti.—Oakes Ames in *American Gardening*, Nov. 11, p. 766.

CALENDAR OF OPERATIONS FOR DECEMBER.

By H. A. Burberry, Orchid Specialist, King's Heath, Birmingham.

Let the following figures be the guide for the temperatures during the present month.

Cool house.—Day, 55°; night, 50°; morning, 45°. It may go as low as 40,° and as high as 60°, but for short periods only.

Intermediate house.—Day, 55° to 60°; night, 50° to 55°; morning, 45° to 50°. Do not let it go below 45° if possible, but it may rise as high as 65° during warm or sunny days.

East Indian House.—Day, 60° to 65°; night, 55° to 60°; morning, 55° to 65°; a few degrees fluctuation being allowed either way according to the conditions outside.

Particular attention should be paid to the atmospheric conditions during this dull, dark month. If the weather should be mild, very little warmth from the fire will be needed to maintain the requisite degrees, and

such being the case, very little water should be distributed. On the other hand, should a large amount of fire heat be called for, see that the atmosphere does not become too parched and arid; but be careful also that such moisture does not take the form of steam, by the water coming into contact with the hot-water pipes, or by any other means, because, if so, something is almost sure to go wrong, sooner or later, and the right cause may not be suspected.

All growth is, of course, practically at a stand-still during this month, even more so than last, therefore my remarks as to the necessity of allowing the plants to repose, and keeping them free from all exciting influences should be the more strictly observed. You cannot force Orchids to grow against their will. You may, perhaps, assist a flower or a spike of flowers to expand a little earlier than it would otherwise do, by subjecting the plant to a slight additional warmth, which is all well and good, but try to have in bloom by Christmas, something which does not appear naturally until February or March, and note the dismal failure, a result, too, in most cases, not again redeemed by any amount of good culture.

The above remarks apply to Orchids generally, but if one genus had to be singled out as suffering more than another from forcing tactics, I should certainly name the Dendrobiums. And, as many of these are just now pushing forth flower buds from the nodes, and new growths from the base, I may once more say, don't force them by taking them too soon into heat, but allow them to come on gradually, but surely, in their own particular department.

Some of the Cypripediums are invaluable for winter blooming, and none more so than the well-known C. insigne and its many varieties; even the most common is acceptable at this season. There are also C. villosum and C. Spicerianum, not to mention other species, and the enormous number of hybrids—too numerous to mention—in which the above three species are more or less represented, form a most imposing array, and an agreeable variation of form and colour in our houses just now. I think when Cypripediums are arranged with other more brilliant and showy Orchids, they are placed at a great disadvantage, and that the best way to fully appreciate the varied forms and colours of this particular class at this season, is to place them together, with no other species to intrude. Certainly they then form a very pretty and attractive display, and should be largely grown, especially in localities troubled with injurious fogs, for they are much less delicate than the majority of Orchid flowers, and rarely suffer much.

The potting of Cypripediums should take place soon after the blooms have passed away, at whatever time of the year that may chance to be, and it need only be done when the plant has out-grown its pot, or when it may

be desirable to divide the root in order to increase the number of plants.

Lumpy peat two parts, sphagnum moss one part, with the fourth part made up of turfy loam, broken mortar rubble or charcoal, and sharp river or road sand, makes a suitable compost. The pots should be well drained about one-third their depth.

The deciduous Calanthe vestita, C. × Veitchii, and other pretty forms of the same type, will now be in full bloom, and will be found most serviceable. They should occupy an intermediate temperature, and if kept pretty dry, will last a longer time in perfection. As the flowers pass away, the pots should be placed on a warm, dry shelf, and but little water, if any, is necessary for a month or so. They will during that time enjoy the necessary rest, and be again ready to start into growth. They seem to grow much more freely and strongly in country places, where the atmosphere is brighter, than in towns.

Cymbidium giganteum is a most useful species, and is now in flower. It is, perhaps, not so handsome as C. Tracyanum or C. Lowianum, but the fact of its being a winter blooming species, makes it equally valuable. It grows well in the Cool house the whole year round, but flourishes also in the Intermediate house. After the flower spikes are cut, the plant should be kept fairly dry at the roots during the winter months, after which it will again burst strongly into growth. The compost above-named for Cypripediums is a very suitable one for this genus also, and re-potting is only required when the pots are outgrown, or for purposes of division and propagation. Two other winter bloomers out at the present time, are C. Mastersii and C. elegans, both handsome and desirable kinds, which, although doing very well in the Cool house during summer, should have the benefit of the Intermediate department throughout the winter. The manner of re-potting and the materials employed, are similar for the whole genus.

There are few, if any, Christmas blooming species more useful and beautiful than the very old and well-known *Zygopetalum intermedium*, and none more certain to bloom. It also lasts a very long time in perfection, either on or off the plant. It likes intermediate temperature, and under favourable circumstances will grow rampant enough, but if by any means it has got out of health, it is often a difficult task to pull it round again, and rarely can it be done except by thoroughly overhauling it; taking it out of its pot, shaking off all old material, and re-potting again in very small pots, thus giving it a fresh start in life. This is generally the best and the quickest plan to adopt. The compost and treatment generally should agree with that just recommended for Cymbidiums, keeping it rather dry for a time after blooming, and re-potting—whenever that operation may be deemed necessary—in the early spring before the new growths become very

far advanced. *Z.* crinitum and *Z.* Mackayi are very similar to this species, requiring the same treatment, and also bloom in winter. *Z.* Gautieri is a very handsome species, flowering at the same period, but different in habit from the foregoing. It is best grown on a tree fern stem, but failing that, a teakwood raft having a little moss and peat about it, is a good substitute. It should be suspended in the Intermediate house, and well supplied with moisture during the summer months.

Cattleya labiata having now practically done duty for the present season, the house will look somewhat bare until the bulk of the Trianæs again put in their appearance. A few stray ones may be in bloom by Christmas, and by then there will also be C. Percivaliana. This is undoubtedly a very pretty species, especially the better varieties, but it is at the same time one of the most unsatisfactory species I have ever had to deal with. It is easy enough to grow fine pseudobulbs, with equally fine flowering sheaths, but it is very disappointing when the flower spikes refuse to come out, and such is frequently the case. They seem to prefer the pure air of the country, and during the period that the blooms are in formation extremes in heat or cold should be careful avoided, and also extremes in the amount of moisture at the root. C. quadricolor—often called C. chocoensis, or sometimes labelled C. Trianæ chocoensis—will also be in evidence, as it is a particularly early species to bloom. Some varieties are very beautiful, especially those that are almost white. C. Warneri is now starting into active growth, and if re-potting is necessary it should now be performed very carefully indeed. It is best grown in hanging baskets, and from now onwards should occupy a fairly warm position in the Intermediate house, and be given sufficient moisture to support the new growths, and to enable them to move slowly and healthily along.

Dendrobium ochreatum (Cambridgeanum) is another very peculiar Orchid which starts regularly to make its new growths in mid-winter. It is no good trying to keep them back, for they will come, and if not supported fairly well the result is that we get small, undersized, starved pseudobulbs, and the plant dwindles away. I have previously advised that this species should be grown in pans or baskets, in a well exposed position, where it gets the full power of the sun's rays, such as the Mexican house would provide. It should occupy such a position now, and receive just sufficient moisture at the root to support its new growths, and keep the old bulbs plump. By the time the new bulbs are formed, the sun will again be gaining some power, and if this does not make those new bulbs flower immediately, as they should quite naturally do, in all probability nothing else will. One should aim to give sufficient nourishment in the water to ensure large pseudobulbs, for the plant is naturally a shy bloomer, and it is only when well-grown that it blooms to perfection. At the same time it

must be well exposed and hardened, or it will fail to bloom even with large bulbs. D. chrysanthum is another which naturally starts to grow now, and should not be hindered in the least from doing so, though on the other hand it should not be pushed by giving great heat. The temperature of the ordinary Intermediate house will suit it admirably. It should always be grown in hanging baskets, and requires but little re-basketing, though when this is necessary it should be done now, and very carefully.

Another good old winter-blooming Orchid is Phaius grandifolius, though it is not usually out by Christmas. The best grown plants of this and allied species which I have yet seen, have been in ordinary plant stoves, and potted in turfy loam freely intermixed with broken rubble and sand. The usual conditions of these stoves seems to suit them to a nicety. The same remarks also fully apply to Peristeria elata, another lovely thing which flowers in late winter. It requires exactly similar treatment, excepting, perhaps, that a little more care should be exercised when watering, as too much water is apt to cause the pseudobulbs to become spotted, and eventually decay. During the winter this fact should be particularly observed.

Masdevallia tovarensis wlll soon commence to produce its pretty little white flowers. It should be kept moist, but see that it does not become too wet at the root, nor occupy a very cold position, or the chances are that the leaves will drop off, and the plant become seriously injured. It is best to remove it to the Intermediate house during winter. In fact, I find generally that none of the Masdevallias are any the worse for a slight amount more warmth than the Cool house supplies during winter, though, if kept fairly dry at the root they will stand a considerable amount of cold without injury. It is too much water, at the root and in the atmosphere, during winter, that causes the leaves of M. Harryana to become so disfigured.

Barkeria Lindleyana, B. cyclotella, and B. Skinneri are now in flower. Compared with most other cultivated Orchids they are not particularly showy, but when well-grown and bloomed, they are very pretty and graceful, and their pretty sprays of blooms are very light and effective when arranged with other flowering Orchids. They are of exceptionally easy culture, and should be placed on blocks or rafts in an Intermediate house, in the full sun, and kept well syringed during summer; and during winter, a good rest should be given. They rarely, if ever, do well unless so treated. In case of exceptionally severe weather, see that the glass ends of the houses have some warm protection against cold, and that some suitable covering be placed on the roofs during the night. Much less fire heat is then necessary, and consequently the atmosphere is the more genial and health producing. Also make provisions against possible long frost by getting in and storing a reasonable supply of fresh sphagnum moss.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE first meeting of the month was held at the Coal Exchange, Manchester, on November 9th. Present : — Messrs. Shorland Ball (in the chair), Thompson, Leemann, Parker, Warburton, Cypher, Johnson, and Weathers (hon. sec.).

A very fine display was forthcoming at this meeting, and from the new names we see cropping up from time to time it is evident that the love of Orchids is greatly on the increase in the neighbourhood of Manchester. The mode of granting awards by this Society, viz., purely upon the merits of the flower exhibited, without regard to the fact of its having been previously certificated, appears to keep up the interest of members in the meetings, and induces them to send up their plants, and we are very pleased to be able to congratulate the Society upon the excellent display of exhibits staged.

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed a very fine form of Oncidium Forbesii, and Cypripedium × Actens, the same plant shown at the last meeting of the Society, but the flower was now much more expanded and richer in colour (First-class Certificate). This exhibitor also staged an interesting miscellaneous group, amongst which we noticed the beautiful terra-cotta Lycaste × Balliæ, a fine plant of Cypripedium insigne albens with six flowers, C. i. aureum, C. × Leeanum magnificum, C. × Moensii, and several well-grown Oncidium varicosum O. Forbesii, and Dendrobium formosum giganteum.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed the magnificent Cattleya × Hardyana Countess of Derby, seen for the first time at this Society's meetings, and to which a First-class Certificate and a Silver-gilt Medal were given, also C. Bowringiana Stand Hall variety, a wonderfully round flower of good colour and substance (First-class Certificate), Lælio-cattleya × Statteriana (A.M.), and a good form of C. labiata. This exhibitor also staged a very fine group, in which the above were included, together with many fine specimens of Cattleya Dowiana aurea, C. labiata, and Dendrobium Phalænopsis, and to which a Silver-gilt Medal was awarded.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya labiata Sir George White, a most beautiful full and round form of flower, with pure white petals and sepals, and the lip with dark purple centre and a white margin (First-class Certificate), C. l. The Czar, and a Cypripedium seedling (villosum × Harrisianum superbum), an interesting and pretty hybrid which the Committee expressed a wish to see again. This exhibitor also staged a splendid group amongst which were included the

above plants, the rare Cattleya labiata Peetersii, and many fine plants of C. labiata, also various forms of Cypripedes. A Silver-gilt Medal was awarded to this group.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed the beautiful Cattleya labiata Cooksoni (First-class Certificate), Cypripedium × Stoneo-Sallieri × villosum aureum, C. Charlesworthii, C. × Lœwegrenianum (Spicerianum × Io grande), and Odontoglossum crispum.

Mrs. Gratrix, Whalley Range, showed Cypripedium insigne Sanderæ (First-class Certificate).

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed the magnificent Odontoglossum crispum Lindenii, to which was awarded a First-class Certificate and a Silver-gilt Medal.

W. Grimble Groves, Esq., Windermere (gr. Mr. Robertshaw), showed a fine specimen of Cypripedium insigne Sanderæ carrying five flowers (First-class Certificate), and a wonderfully grown plant of Cattleya × Mantinii nobilior (First-class Certificate and Cultural Certificate).

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Lælio-cattleya × Pallas, (crispa × Dowiana chrysotoxa) with labellum very dark purple in colour and drawn back in the centre, and petals and sepals of a dull purple (A.M.).

Edward Holt, Esq., Prestwich (gr. Mr. Murphy), showed a fine plant of Cypripedium insigne Sanderæ (First-class Certificate), a well grown plant of C. × Arthurianum, and Cattleya labiata.

T. Baxter, Esq., Morecambe (gr. Mr. Roberts), showed Cattleya labiata cœrulea, a small flower with a peculiar bluish patch on the labellum (A.M.), C. l. roseum, Cattleya Dowiana aurea, and two fair forms of Odontoglossum crispum.

Mr. Upjohn, gardener to the Earl of Ellesmere, showed two fine and well grown specimens of Cattleya Bowringiana, for which a Vote of Thanks was awarded.

Mr. Edge, gardener to J. Leemann, Esq., Heaton Mersey, showed a yellow form of Cypripedium insigne named Nellie.

Mr. A. J. Keeling, Bingley, showed Crypripedium × magnificum (Pollet-ianum × insigne), to which an Award of Merit was given, and three yellow forms of Cypripedium insigne. The same exhibitor also staged a miscellaneous group, for which he was awarded a Silver Medal.

At the meeting held on November 23rd there was again a very fine display. The Members of the Committee present were :—Messrs. Shorland Ball (in the chair), Law-Schofield, Thompson, Leemann, Dr. Hodgkinson, Messrs. Lovell, Baxter, Warburton, Parker, Holmes, Cypher, Stevens, Johnson, and Weathers (hon. sec.).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed

Cypripedium × Fowlerianum (C. × Harrisianum superbum × bellatulum), an exceedingly fine hybrid, with large, round, flat dorsal sepal, wide petals, and good in colour throughout, to which a First-class Certificate was unanimously awarded.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Cypripedium × Sir George White (C. × Leeanum giganteum × concolor), a hybrid of very good form and substance, though weak in colour, but which may improve in this respect, as the flower did not appear to be fully expanded.

W. Thompson, Esq., Walton Grange (gr. Mr. Stevens), showed Odontoglossum × loochristiense "Canary Bird," with sepals and petals of a very distinct canary colour, and lip white with brown markings (F.-c. C.), O. crispum Meteor, with flower of perfect form, but of a somewhat undecided pinkish colour (A. M.), and Miltonia × Bleuana. The same exhibitor also staged a small but select group, including several other good Odontoglossums, for which he received a Vote of Thanks.

Thomas Statter, Esq., Stand Hal. (gr. Mr. Johnson), showed Lælio-Cattleya × Ingrami superba (A. M.), and Cattleya × Hardyana.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-Cattleya × Yellow Prince (xanthina × Gaskelliana), a very beautiful hybrid with petals and sepals of Indian yellow, and the lip suffused with a rosy tinge over the lower part, and deep orange throat (F.-c. C.); L.-c. × Captain Scott (L.-c. × elegans grandiflora × C. labiata flammea—A.M.), L.-c. × Clonia, Cattleya × Maroni, a very beautiful variety (F.-c. C.); C. × Lady Ingram (Eldorado × Dowiana aurea), C. × Mrs. Herbert Greaves (Harrisoniana × Gaskelliana — A.M.), Cypripedium insigne Sanderæ (F.-c.C.), and C. × Leeanum superbum. This exhibitor also staged a very fine group containing many other striking things, for which he was awarded a Silver-gilt Medal.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cypripedium × Samuel Gratrix (Leeanum giganteum × nitens—A.M.), C. × F. Howes (Salleri × villosum aureum—A.M.), C. insigne, and Lælio-cattleya × Amelia.

Mrs. Gratrix, Whalley Range, showed Cypripedium insigne excelsior, C. × Perfection (A.M.), and C. i. Ernesti.

Thomas Baxter, Esq., Morecambe (gr. Mr. Roberts), showed Odonto-glossum crispum guttatum xanthoglossum (A.M.), very distinct in colour and markings, and two other fine forms of O. crispum.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Cypriped-ium insigne Sanderæ (F.-c.C.).

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed a seedling Lælio-cattleya derived from L. anceps ♀ and C. Bowringiana ♂,

bearing a single first flower; Cypripedium × Tityus (A.M.), C. insigne citrinum, C. × T. B. Haywood, and C. × barbato-Curtisii. This exhibitor also staged a very interesting group, consisting principally of Cypripediums, including C. insigne Sanderæ, Harefield Hall variety, Uplands variety, and many good spotted forms of insigne, also C. bellatulum, callosum, and × nitens magnificum, for which he was awarded a Vote of Thanks.

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Cattleya labiata White Queen, C. × Olivia, Cypripedium × triumphans (F.-c.C.), and Odontoglossum crispum.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Cypripedium × Hitys superbum (Sallieri × œnanthum superbum), Cattleya labiata Gilmouræ, very much in the way of Cooksoni (F.-c.C.), and Lælio-cattleya × eximia reversa.

R. de Doux, Esq., West Derby (gr. Mr. Archer), showed two plants of Cypripedium × Olga Bagshawe (œnanthum superbum × callosum).

Mr. H. Partington, Glossop, showed a fine specimen of Cattleya labiata, for which he received a Cultural Certificate, and C. l. marmorata.

Mr. Cypher, Cheltenham, showed Dendrobium Phalænopsis atro-sanguineum (A.M.), and a small group, amongst which we noticed Cypri-pedium insigne punctato violaceum, C. i. magnificum, and a pretty yellow form, also C. × Leeanum Bourtoni, and C. × L. giganteum.

Mr. Keeling, Bingley, showed Cypripedium × magnificum (Pollettianum × insigne giganteum).

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was a brilliant display of Orchids at the Drill Hall, James Street, Westminster, on November 7th, which was largely due to the presence in quantity of the fine old Cattleya labiata, and it is curious to note that this species carried off all the First-class Certificates awarded at the meeting. The members of the Orchid Committee were:—H. J. Veitch, Esq., in the chair, and Messrs. E. Ashworth, H. Ballantine, H. J. Chapman, J. Colman, J. Douglas, J. G. Fowler, J. T. Gabriel, T. B. Haywood, E. Hill, J. Jaques, C. J. Lucas, A. H. Smee, F. J. Thorne, R. B. White, W. H. Young, and J. O'Brien (hon. sec.).

R. Brooman White, Esq., Arddarroch, Garelochead, sent some two-dozen fine spikes of Odontoglossum crispum, selected from over two-hundred in flower in the collection. One very beautiful form approached O. c. xanthotes, but had broader rounded flowers, with a deep yellow blotch in the centre of each sepal, and a row of similar spots round the margin of the lip. O. c. Geraldine, shaded with rose-pink and blotched with red-brown, was also very handsome. The group received a Silver Banksian Medal.

Mrs. Briggs-Bury, Bank House, Acrington (gr. Mr. Wilkinson), sent Cattleya labiata Gilmouræ, a handsome white form with a violet-purple blotch between the yellow disc and the broad white margin. It received a First-class Certificate.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), staged a group of brightly coloured forms of Cattleya labiata. A First-class Certificate was awarded.

A. H. Smee, Esq., The Grange, Hackbridge, showed a fine and very richly coloured form of Cattleya labiata, to which a First-class Certificate was given.

R. I. Measures, Esq., Cambridge Lodge, Camberwell, also staged the brilliant Cattleya labiata, and received a First-class Certificate.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent Lælia pumila Ashworthiæ, a pretty white form tinged with pale lavender, also an interesting group of Cypripediums, including a very large form of C. insigne, C. × Louisa Fowler Harefield variety (both from C. insigne × Chamberlainianum and from the reverse cross), and several other interesting hybrids.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), showed a handsome hybrid Lælio-cattleya of unrecorded parentage, but much resembling L.-c. × Decia.

Major-General Gillespie, Brynderwen, Usk, sent a very pretty form of Odontoglossum × Andersonianum.

A. S. Hitchins, Esq., Clyton, St. Austell, sent the charming little Paphiopedilum × Hitchinsiæ (insigne × Charlesworthii), which was described at page 335 of our last issue.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent a pretty light form of Cattleya labiata, C. Bowringiana concolor, with flowers uniformly pale-rose, and Lælia pumila Low's variety, with a bluish tint on the lip.

Messrs. James Veitch & Sons, Chelsea, sent Cattleya labiata Princess of Wales, a charming white form with a slight tinge of pink in the centre of the lip, and in front of the light yellow disc. It received a First-class Certificate.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a brilliant group to which a Silver Banksian Medal was given. It contained many fine forms of Cattleya labiata, the beautiful yellow Cypripedium insigne Laura Kimball, Catasetum callosum, Lælio-cattleya × Novelty, good forms of Oncidium Forbesii, Sobralia Lindeni, and a fine well-flowered specimen of Dendrobium Coelogyne, to which an Award of Merit was given.

Mr. Ed. Kromer, Bandon Hill, West Croydon, showed Cattleya granulosa gigantea, a very large form with flowers six inches across, and

fifteen good and distinct forms of Cattleya labiata, one called C. l. Kromeræ being tinted with slaty-blue. A Bronze Banksian Medal was awarded to the group.

Mr. James Douglas, Edenside, Great Bookham, also received a Bronze Banksian Medal for a pretty group, comprising Aerides suavissimum, Cœlogyne Massangeana, and some good spikes of Cattleya labiata and C. Loddigesii.

At the meeting held on November 21st there was again an excellent display of Orchids for the season. The members of the Orchid Committee present were :—H. J. Veitch, Esq., in the chair, and Messrs. Ashworth, Bond, Chapman, Colman, Crawshay, Douglas, Fowler, Haywood, Hill, Jaques, Little, Sander, Smee, Thorne, Winn, Young, and O'Brien (hon. sec.).

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), staged a fine group of Cypripediums, to which a Silver Flora Medal was given. It contained a fine series of C. insigne varieties, among which the following were noteworthy :—C. i. Sanderæ, C. i. Laura Kimball, C. i. Balliæ, C. i. citrinum, the noble C. i. Harefield var., C. i. punctato-violaceum ; and among other species and hybrids must be mentioned C. Charlesworthii magnificum, C. × Arthurianum, C. × Ashburtonæ, C. Buchanianum, C. × Leeanum giganteum, C. × œnanthum superbum, C. × Niobe, C. × Tityus, C. × Pitcherianum, C. × Morganiæ burfordiense, and others, all being beautifully grown. An Award of Merit was given to C. × Milo Westonbirt var., a very fine form derived from C. × insigne Chantinii and C. × œnanthum superbum. The dorsal sepal is white, flaked and spotted with rose and purple, and the petals and lip rich bronzy purple.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a very effective group, to which a Silver Banksian Medal was given. It contained the fine Cymbidium Tracyanum, Lælia autumnalis alba, Lælio-cattleya × Hon. Mrs. Astor, a finely flowered Cattleya maxima, three good plants of C. × Mantinii, and a good series of C. labiata forms.

Sir James Miller, Bart., Manderstone, Duns., N.B. (gr. Mr. Hamilton), sent Cattleya × Mrs. J. W. Whiteley (Bowringiana × Hardyana Massaiana), a very pretty hybrid allied to C. × Mantinii, to which an Award of Merit was given. The flowers are bright rose-purple, somewhat darker on the front lobe of the lip, and a purple band between this and the yellow disc.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent Odontoglossum crispum Meteor, a fine blush white flower with some rose-coloured markings, and O. × loochristiense "Canary Bird" (crispum × triumphans), a very charming bright yellow form, with some brown spots on the sepals and lip. An Award of Merit was given to the latter.

R. Ashworth, Esq., Ashlands, Newchurch (gr. Mr. Pidsley), sent Oncidium Forbesii and a dark brown form of the same, also a fine form of Cattleya labiata called "White Empress," having pure white flowers with a crimson-purple spot on the lip.

W. A. Bilney, Esq., Fir Grange, Weybridge, showed a fine series of cut spikes of Cattleya labiata, also a fine inflorescence of Vanda cœrulea, and another of V. Sanderiana.

Frau Ida Brandt, Reisbach, Zurich (gr. Mr. Schlecht), sent out blooms of two handsome Pescatoreas called P. Gairiana and P. Dayana splendens.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), showed a fine lilac-coloured form of Cattleya maxima, with pretty reticulated lip.

Messrs. James Veitch & Sons, Chelsea, staged a superb group, to which a Silver-gilt Flora Medal was given. One of its principal features was a beautiful series of five Lælia Perrinii hybrids, Lælio-cattleya × Decia, L.-c. × Statteriana, L.-c. × Semiramis, L.-c. × Lady Rothschild, and Lælia × juvenilis, in most cases several examples being shown. The hybrids of Cattleya Bowringiana are also very useful at this season, and included in the group were C. × Mantinii, C. × Ariel, and C. × Portia. Other fine things were Lælio-cattleya × Dominiana langleyensis, L.-c. × Atalanta, Epidendrum × Endresio-Wallisii, and a series of Cypripediums, specially noteworthy being eight plants of the beautiful C. insigne Sanderæ, C. × Euryades, C. × Tityus, C. × marmorophyllum, C. × Œnone, C. × Actens, C. × Enid, C. × Arthurianum, &c. An Award of Merit was given to Cattleya × vestalis (maxima ♀ × Dowiana aurea ♂), a very distinct and beautiful hybrid, most resembling the seed bearer in shape, but the flowers rather larger and light blush-pink in colour, with some beautiful rose-purple veining on the front lobe of the lip, and some orange in the throat.

M. Ed. Kromer, Roraima Nursery, West Croydon, sent a nice group of Cattleya labiata, including two striking forms, C. l. Kaiser Wilhelm II., having the sepals and petals broadly banded with deep claret red, and the lip also marbled with the same colour, in the way of C. l. Peetersii, and C. l. "Brazil" having the lip ruby red with a white disc.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a fine group, including Oncidium varicosum with four strong spikes, a fine example of Cycnoches chlorochilon bearing an inflorescence of three female flowers, the handsome Cypripedium insigne Laura Kimball, C. × Milo, Lælio-cattleya × exoniensis, L.-c. × Nysa, L.-c. × Decia, &c.

Messrs. Paul & Son, Old Nurseries, Cheshunt, staged two round baskets of Masdevallia tovarensis, each containing about seven plants, which were literally covered with their beautiful snow-white flowers; also several baskets of Cypripedium insigne and C. Spicerianum, equally well grown.

ORCHID PORTRAITS.

CYPRIPEDIUM CALLOSUM SANDERÆ.—*Gard. Mag.*, Nov. 18, pp. 728, 730, with fig.

CYPRIPEDIUM × IANTHE (abnormal).—*Amer. Gard.*, Oct. 28, p. 737, fig. 191.

CYPRIPEDIUM INSIGNE LAURA KIMBALL.—*Amer. Gard.*, Nov. 11, p. 767, fig. 196.

CYPRIPEDIUM × KIMBALLIANUM.—*Amer. Gard.*, Oct. 21, pp. 718, 719, fig. 186.

CYPRIPEDIUM × OLIVIA.—*Gard. Chron.*, Nov. 4, p. 339, fig. 113.

CYPRIPEDIUM STONEI PLATYTÆNIUM.—*Gard Mag.*, Nov. 11, pp. 710, 711, with fig.

DENDROBIUM TREACHERIANUM.—*Journ. of Hort.*, Nov. 23, pp. 444, 459, fig. 82.

LÆLIO × MRS. M. GRATRIX.—*Journ. of Hort.*, Nov. 3, p. 377, fig. 71. *Gard. Mag.*, Nov. 25, p. 748, with fig.

LÆLIA-CATTLEYO × EUDORA MADAME ALBERT HYE.—*Journ. of Hort.*, Nov. 9, pp. 406, 407, fig. 75.

ODONTOGLOSSUM CRISPUM DAPHNE.—*Gard. Mag.*, Nov. 18, p. 728, with fig. This appears to be a form of the polymorphic hybrid O. × Denisonæ.

ORCHIS SPECTABILIS, L.—*Neub. Gart. Zeit.*, Nov., p. 481, t. 11.

ZYGOPETALUM GAIRIANUM.—*Gard. Chron.*, Nov. 25, p. 401, fig. 129.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some caes, for various reasons, they have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

I. C. The seedling "Cypripedium barbatum × C. Canham" seems at present rather small in the dorsal sepal, but may improve as it becomes stronger. We do not find a name for it.

H. J. H. Cypripedium × Leeanum giganteum may have been fertilised in some way with its own pollen, for we find no trace of either Charlesworthii, × œnanthum superbum, or × Creon. The seedling seems to be simply a form of the polymorphic C. × Leeanum.

H. A. B. Odontoglossum × mulus, a natural hybrid between O. luteo-purpureum and O. gloriosum.

Photographs received with thanks. R.W.R.

A. C., O. O. W., J. G., T. S., and others. Next month.

Owing to the curtailment of space in the present issue, occasioned by the Index, several notes and articles are unavoidably held over till next month.

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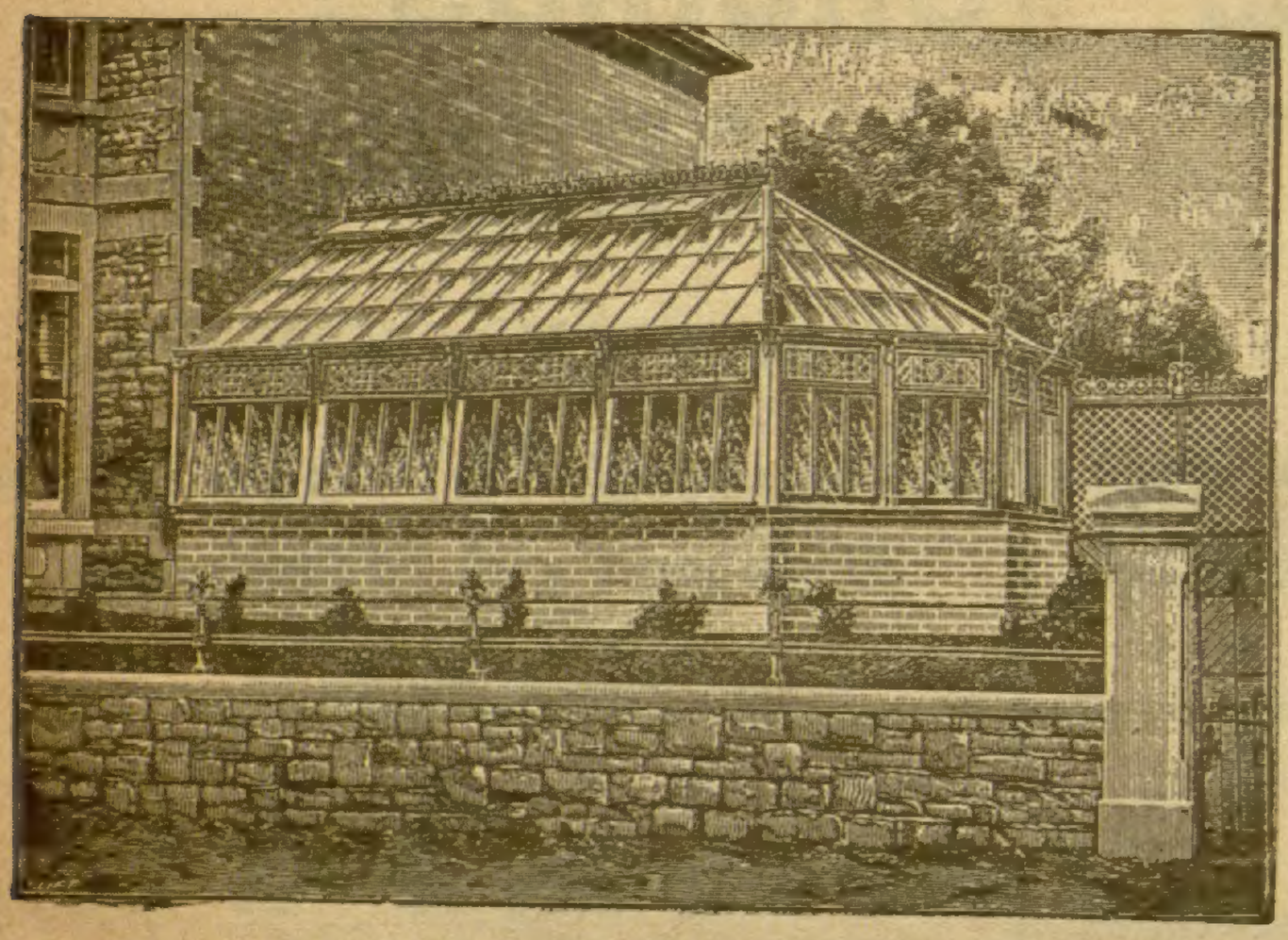

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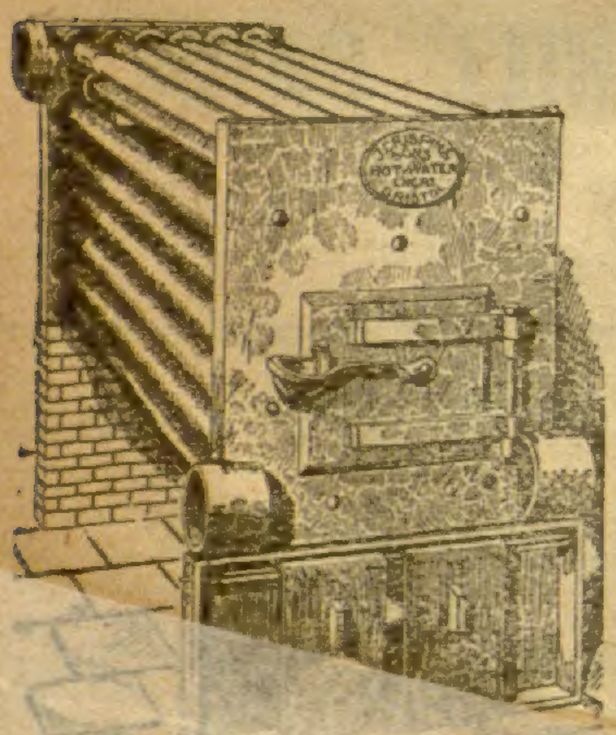

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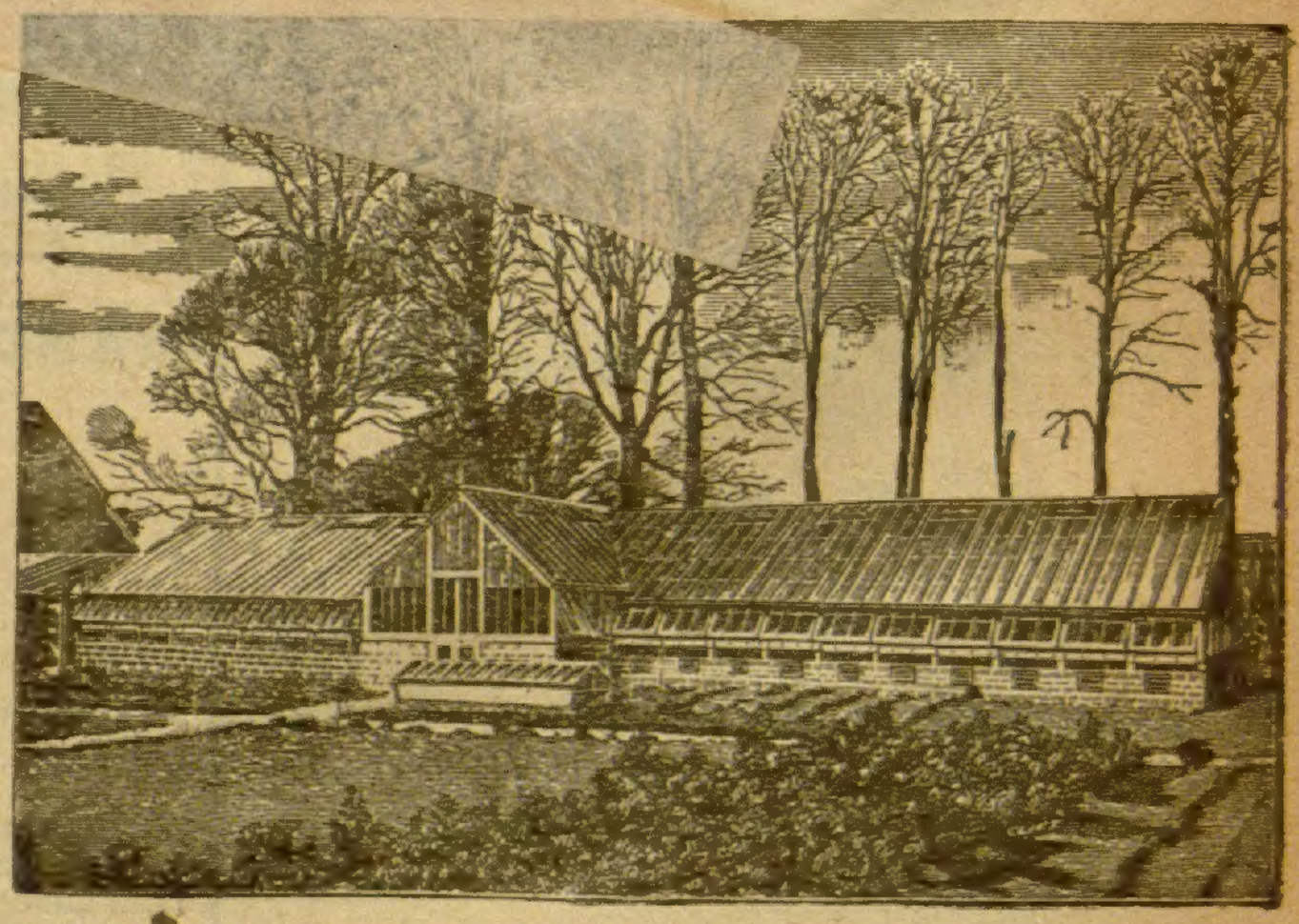

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